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Arnold
Gymnastic Tactics

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GYMNASTIC TACTICS.

Part I

TACTICS OF THE INDIVIDUAL

BY

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NEW HAVEN CONN.

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APPENDIX TO VOLUME
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PREFACE TO SECOND EDITION



ASIDE from the correction of a few typographical errors this new edition shows no changes of any consequence. The only exception to this is the mode of starting marking time, marching forward and backward from a stand. While the text still allows a preference, this preference has in our practice been made the rule. Under this rule the mode of starting and facing is changed in the following exercises:

C I, 1, 2, 3.

C II, a, 1, 2, 3.

C II, d, 10, 11, 12.

E. H. A.

New Haven, Conn., August, 1903.

PREFACE TO THIRD EDITION



THIS third edition shows a revision of the terminology along the lines laid down in my *Gymnastic Nomenclature*. Thus, follow step is no longer called "follow step sideward right or left," since in tactics the only follow step is a sideward one. It makes distinction in command between the two forms of sideward marching.

The term "mark time" has given place altogether to "in place, march." As in place march is as much forward as it is sideward or backward, which will appear plainly in the practice of tactics of the rank, it has been assigned a different place.

In the combination of facing and marching, the term face precedes the direction in order to avoid its being mistaken for an executive command, this arrangement making discrimination easier.

Finally, a chapter on curvilinear marching as exemplified by circling has been added.

E. H. A.

New Haven, Conn., January, 1912.

PREFACE TO FOURTH EDITION



THE fourth edition goes forth with no changes except the addition to the facing of a three-eighths turn or facing of 135° .

E. H. A.

New Haven, January, 1916.

PREFACE TO FIFTH EDITION



This little book looks now to a quarter century of usefulness. I was tempted to re-write the introduction, but prefer as a matter of historical record to let the previous one stand. I should, however, wish to emphasize here the two relations which the Tactics of the Individual purpose to regulate. These relations are in the first place, that of distance which marching regulates, in the second place surface relation which it is the mission of facing to deal with.

As I go along with my years of teaching physical education in general and tactics in special I am more and more impressed with the extreme and fundamental importance of marching as an educational exercise. As I stated above that in dealing with distance relations it becomes clear that space values and the comparison of them is the subject of marching, in other words "measuring." There opens a wide vista of measures, linear, square, body (cubic) measures. The synonym of comparative body measures is weight. Finally, but not least, the comparing of different movements through the same space is "speed," "time." The influence of march measuring permeates our whole life. Here is a source of exact knowledge of things around us without attending a college, a good part of the common sense to be found in people without book learning.

Chapter H, giving the tactic exercises of marching and facing while changing from a march to a run and vice versa is added in outline.

E. H. A.

New Haven, Conn., December, 1921.

PREFACE



GYMNASTIC Tactics serve the purpose of creating, changing, re-establishing, dissolving, and re-creating a certain order or relation of the gymnast.

The first order or relation to be established is that between the gymnast and his surroundings: the next is the relation between two or more gymnasts considered together. It is the purpose of this booklet to deal with those tactic exercises only which regulate the relation of the individual to his surroundings.

This relation is, in the main, determined by the relation which the surfaces of the gymnast's body (viz., front, right and left sides, back) hold to the surrounding objects, which relation is geometrical, i. e., parallel, at right angles, or any intermediate degree. Once established, the relation between the gymnast and the object in question may be changed without changing the geometric relation between the surfaces of his body and the object, by moving towards or away from the object in the direction indicated by the different surfaces of the body. This gives rise to marching forward, sideward right and left, and backward. Again the relation between gymnast and object may be changed without increasing or decreasing the distance between them, by turning the body around its long axis and thus changing the geometric relation between the surfaces of the body and its surroundings. Lastly we have the combination of these two methods of change.

A word is, I think, necessary to state the reasons for the working out in detail of these relations. It would seem as if the *all possibility* method of teaching had found an adherent in me.

The objection may be raised that one can get along with very few tactic exercises. That would indeed be true, if, as is the case with military tactics, the only object were to get the class with the greatest despatch into position for doing certain kinds of work. The work being the same within certain limits, the tactics could always be the same. Yet even the greater variety of work in the gymnasium as compared with military work would call for an increased number of tactic exercises. If despatch were the only desideratum the antiquated and unpedagogical and especially ungymnastic way of taking footmarks would be sufficient. But tactics serve other purposes than the moving of a class with despatch into certain positions. That is, indeed, an end sought, but one which is best accomplished by way of mental training.

I cannot here, while treating exclusively of tactics of the individual, speak of the purpose of handling a class, nor of the furthering of the sense of concerted action. By tactics of the individual I wish, in the first place, to engage the attention of the pupil, and this can not be accomplished if the moves that are to follow are known beforehand, as is the case if classes are always lined up and arranged in the same way, if opening and closing ranks never varies from one method, if turns are always in the same direction. Secondly, I wish to shorten reaction time. This again is only possible if the moves are unexpected and ever changing.

Moreover by tactics I wish to improve the faculty of discrimination. This is impossible unless movements of different kinds and degrees are given that there may be an opportunity for discrimination. It has been proven by experiment that even the gymnastic training of the above mentioned faculties leaves the gymnast inferior as a thinker to the bookworm because he has not learned to work out with quickness and precision a complicated thought, a chain of thought as it were. To attain this is my object in giving combination tactic movements. That a great deal of material is needed if tactics are to be taught according to this plan, those gymnastic teachers know best who have the direction of the same pupils through grade after grade, from early childhood to adult life.

As for the wording of the command, it is easily seen that if the whole of tactics consists of a dozen moves they may be called anything. The movement picture may then be represented by an arbitrary word picture, the two being associated in memory by means of constant repetition. One might substitute the numerals for words and get good results, if sufficient drill were had.

It is altogether different when a great number of tactic movements are practiced. Then care must be taken to make a command a *real* word picture, representing as nearly as language can the move desired. It must, therefore, give the kind of movement, its direction, degree—if existing in different degrees—and its mode of execution. To illustrate—we may not say about face, for that leaves the direction to be taken in doubt. It should be right or left about—face. We should not command simply—wheel left, for such a movement may be executed in different ways and in different degrees. To make the

command definite, it should be $\frac{1}{4}$ wheel left—march. We do not use—double quick time—march, for the time is not usually doubled, nor is the move a march, but a run. I have attempted to establish a nomenclature which is descriptive and at the same time has the quality of brevity.

On the physical value of tactics, their place in a gymnastic lesson, and the time to be devoted to them, I can not enter here, but expect to state my views on some other occasion. As to the use of the material it is easily seen that not all of the tactics of the individual should nor, indeed, can be taught before beginning tactics of the rank and body of ranks. It is equally easy to understand that simple movements precede the complicated: the ones standing (generally speaking), those marking time and those marching from place; marching, running, etc. The changes and combinations follow in general the rule given by me for free gymnastics, i. e., single tactic movements, forward, sideward, backward, combinations in the same direction first, then in opposite, then in different directions.

TO MISS FRANCES N. BOYNTON, Instructor of Gymnastics at Ogontz School, Pa., I am greatly obliged for preparing for press this little pamphlet.

E. H. A.

New Haven, Conn., July, 1897.

TACTICS

Part 1

TACTICS OF THE INDIVIDUAL

SYNOPSIS.

A. Marching.

- a. From place.
- b. In place.

Directions and Modes from Place :

1. Forward.
2. Sideward.
3. Sideward with follow step.
4. Backward.

- I. Marching and Halting.
- II. Changes from Marching in Place to Marching in the Different Directions and Modes from Place.
- III. Changes from Marching in the Different Directions and Modes from Place to Marching in Place.
- IV. Changes from One Mode and Direction of Marching from Place to Another.

B. Facing.

Directions: Right	Degrees: $\frac{1}{8}$ turn or 45° .
Left.	$\frac{1}{4}$ turn or 90° .
	$\frac{3}{8}$ turn or 135° .
	$\frac{1}{2}$ turn or 180° .

- I. While Standing in Place.
- II. While Marching in Place.
- III. While Marching in Different Directions and Modes from Place.

- C. Facing and Marching from a Stand.
 - I. Facing and Marching in Place.
 - II. Facing and Marching in Different Modes and Directions from Place.
- D. Facing and Halting from a March.
 - I. From Marching in Place.
 - II. From Marching in Different Modes and Directions from Place.
- E. Facing and Changing the Mode and Direction of the March.
- F. Curvilinear Marching.
- G. The exercises contained in chapters A—F executed while running.
- H. The Exercises of Chapter A, II, III and IV Done While Changing from a March to a Run or Vice Versa.

A. MARCHING:

I. Marching and Halting.

a. From Place.

1. Marching forward.

Command: Forward—March!

Execution: *a.* Time.

b. Step.

Time: Self-established, differing in different classes.

Step: Starting with certain foot and time gives step. Start with left (preferably) or right foot.

Means of helping step and time is sense of hearing, since the eye should not be used for this purpose. Pupils stamp foot L. [R.]; slap hands as L. [R.] comes down, or

every other time L. [R.] foot comes down. Always stamping the same foot may make habitual a heavier step with that foot.

Time is aided by the teacher's calling, stamping, slapping. When step is well established, no differences in accent should be encouraged or even tolerated.

2. Halting from marching forward.

More time is needed than in halting from marching in place because the acquired momentum must be overcome, and the reflex pendulum movement of marching must be stopped by an act of volition. Hence we give two counts notice.

Command: Halt! given as either foot reaches the ground, preferably the right.

Execution: The other foot advances one more step and the foot on which the command was given closes the movement by coming to position beside the other.

3. Marching: Sideward R. [L.]

Command: Sideward R. [L.]—March!

Execution: As true marching is desired under this command, after the left foot has been placed sideward so far that a complete transfer of weight has occurred, the other foot must be moved in the same direction beyond the first foot so far that another transfer of weight may take place. This necessitates a crossing of the moving leg either in front of or behind the then stationary leg, preferably in front.

4. Halting from marching sideward.

Command: Halt! given (preferably) as the foot on opposite of body to the direction of the march (i. e., the right foot when the march is left) touches the ground.

Execution: The other foot takes one more step and the foot on which the command was given ends the movement by closing to position.

5. Marching backward.

Command: Backward—march!

Execution: Start is made with L. (preferably) or R. foot. Time and step follow rule laid down under forward marching.

6. Halting from marching backward.

Command: Halt! given as one foot (preferably right) reaches ground.

Execution: The other foot takes one more step backward and the foot on which the command was given ends the movement by closing to position.

7. Marching sideward with follow step.

The sideward marching above described (see 3) does not present altogether the features of forward and backward marching, yet is the nearest possible approach to them. It is not commonly in use, however. The sideward marching usually seen is not a true marching, but corresponds to the follow step. Where true marching sideward (see 3) is not practiced there is no reason for distinguishing the move now described by an exact command as below, but the command sideward L. [R.]—march may be used.

Command: Follow step L. [R.]—march!

Execution: The leg on the side to which the move is ordered steps sideward and the other foot is closed to position.

8. Halting from marching sideward with follow step.

Only one count's notice is required, as the feet necessarily come to position in the course of

the movement, and the momentum acquired, being naturally small, is easily overcome.

Command: Halt! given as foot on side to which march is taken reaches the ground.

Execution: The other foot closes to position.

b. In Place.

1. Marching in place.

Command: In place—march!

Execution: *a.* Time.

b. Step.

a. Time: Shorter than in marching forward, as the distance covered is only about one-half that of the step in marching forward. The movement is volitional, not reflex, and therefore, more difficult of execution than marching forward. The rhythm is more easily adjusted to the average because the movement is volitional, but it is harder to keep, usually becoming faster and faster.

b. Step: Start with either foot preferably left. With extended knee raise L. [R.] leg, advancing foot about one foot length; lower to stand and immediately raise R. [L.] in same manner.

Means of helping time and step—pupils slapping hands (stamping interrupts rhythm); teacher counting, calling, stamping, slapping hands.

2. Halting from marching in place.

There is no momentum to overcome, and no inhibition is needed. The volition is simply not renewed.

Command: Halt! given when raised foot returns and touches ground. May be either R. or L. foot, preferably L.

Execution: The other foot is advanced once forward and replaced, and the movement stopped. Time for thought is thus allowed.

II. Changes from Marching in Place to Marching in Different Directions and Modes from Place.

1. From marching in place to marching forward.

Command: Forward — march! the executive being given as one foot (preferably the left) comes back to position from marching in place.

Execution: The other foot is advanced once more in the marching in place movement and replaced, then the foot on which the executive command was given commences the march forward.

The extra count is allowed to give time for thinking and for poising the body forward that the first step in the movement may be true marching, i. e., with complete transfer of weight.

2. From marching in place to marching sideward.

Command: Sideward left [r.]—march! the executive being given as the foot on the side to which the march is to take place touches the ground.

Execution: The other foot marches in place once more, and the marching sideward is then begun with the foot on which the command was given, and continued as already described. (See section I, 3.)

3. From marching in place to marching sideward with follow step.

Command: Follow step left [r.]—march!

Execution: Once more march in place as in 2. then the march is executed as described in section I, 7.

4. From marching in place to marching backward.

Command: Backward — march! executive given as one foot (preferably L.) touches ground.

Execution: The other foot marches in place once more, then the backward march is begun by the foot on which the command was given.

III. Changes from Marching in the Different Directions and Modes from Place to Marching in Place.

1. From marching forward to marching in place.

Command: In place—march! executive given as one foot (preferably L.) touches ground.

Execution: Other foot advances one more step when the foot on which the command was given commences to march in place.

2. From marching sideward to marching in place.

Command: In place—march! executive given as one foot touches the ground, preferably the foot on the side to which the march is directed.

Execution: Other foot takes one more step in the direction of the march, and the mark time is then begun by the foot on which the command was given.

3. From marching sideward with follow step to marching in place.

Command: In place—march! executive command given preferably as foot on the side to which the march is directed touches the ground, though it may be given as the other foot touches the ground.

Execution: In former case the other foot closes to position and the foot on which the command was given commences the march in place. In the second case one more step is taken by the foot on the side to which the march is directed, and the foot on which the command was given commences the march in place.

4. From marching backward to marching in place.

Command: In place — march! executive command given as one foot (preferably left) touches the ground.

Execution: The other foot takes one more step backward when the one on which the command was given begins the march in place.

IV. Changes from one Mode and Direction of Marching from Place to Another.

1. From marching forward to marching backward.

Command: Backward — march! executive command given as one foot (preferably left) touches the ground.

Execution: The other foot takes one more step forward when the foot on which the command was given begins the backward march.

2. From marching forward to marching sideward.

Command: Sideward left [r.]—march! executive command given as one foot touches the ground, preferably that on the side to which the march is to take place.

Execution: The other foot takes one more step forward when the foot on which the command was given begins the sideward march as ordered.

3. From marching forward to marching sideward with follow step.

Command: Follow step left [r.]— march! executive command given as in (2) just preceding.

Execution: As under (2) just preceding.

4. From marching sideward left [r.] to marching forward.

Command: Forward — march! executive command given as one foot touches the ground, preferably the foot on the side to which the march is directed.

Execution: The other foot takes one more step sideward, and the foot on which the command was given then takes up the march forward.

5. From marching sideward left [r.] to marching sideward right [l.]

Command: Sideward right [l.]—march! executive command given as under (4) just preceding.

Execution: As under (4) just preceding.

6. From marching sideward left [r.] to marching sideward left [r.] with follow step.

Command: Follow step left [r.] — march! executive command as in 4.

Execution: As under 4, the new marching being sideward to side indicated by command and in the manner of the follow step.

7. From marching sideward left [r.] to marching backward.

Command: Backward — march! executive command given as under 4.

Execution: As under 4, the new march being backward.

8. From marching sideward left [r.] with follow step to marching forward.

9. From marching sideward left [r.] with follow step to marching sideward right [l.] with follow step.

10. From marching sideward left [r.] with follow step to marching sideward right [l.].

11. From marching sideward left [r.] with follow step to marching backward.

Commands:	Forward,	} march!
	Follow step left [r.]	
	Sideward right [l.]	
	Backward	

Executive command given as foot on side to which march is directed touches ground.

Execution: The other foot closes to position and the march in the new direction is taken up by the foot on which the command was given; except when the change is to sideward march with follow step in the opposite direction (9), in which case the new movement must be begun with the foot on the side to which the new march is to be directed.

12. From marching backward to marching forward.
13. From marching backward to marching sideward.
14. From marching backward to marching sideward with follow step.

Commands: Forward
Sideward left [r.]
Follow step left [r.] } march!

Execution: As in 1, 2, 3, reading backward in place of forward.

B. FACING.

I. Facing While Standing in Place.

Degree of Movement: All degrees are possible. In tactics only the following are used: $\frac{1}{8}$ turn or 45° , $\frac{1}{4}$ turn or 90° , $\frac{3}{8}$ turn or 135° , $\frac{1}{2}$ turn or 180° .

1. $\frac{1}{8}$ turn l. [R.].

Command: Left [r.]—half—face!

Execution: One foot (preferably the right, whichever way the turn) is raised entirely from the ground and the turn of 45° is made on the heel of the other, the fore part being raised. The heels are kept in contact, the angle of the feet is kept intact, and the arms are kept in position.

N. B.—Half relates to face. One can not split a direction. There is no more a half-left than there is a half-forward movement, but taking $\frac{1}{4}$ turn or 90° as the unit of facing a half face is $\frac{1}{8}$ turn or 45° .

2. $\frac{1}{4}$ turn L. [R.]

Command: Left [r.]—face!

Execution: $\frac{1}{4}$ turn in the manner indicated in the preceding paragraph, preferably on the left heel whether the turn is left or right.

3. $\frac{3}{8}$ turn L. [R.]

Command: Left [r.] and half—face!

Execution: $\frac{3}{8}$ turn in manner indicated above, preferably on left heel.

4. $\frac{1}{2}$ turn L. [R.]

Command: Left [r.] about—face!

Execution: $\frac{1}{2}$ turn in the manner described under 1, preferably on the left heel.

N. B.—Facing on the same heel left and right while standing becomes a tactic necessity when the individual does the exercise as a member of a rank for if in a closed flank or front rank several members of the rank were to face repeatedly one left, one right and then reface repeatedly in the other order it would be found that the distance relation between them which in a dressed front or flank rank should prevail will be so changed and disturbed as to make further movement as an individual or as a rank impossible. This is quite different in facing while marching in or from place. While here facing left on the right or right on the left foot again if done as mentioned above in a rank would disturb distance relations the movement in or from place allows such readjustment of the space discrepancy as will make the tactic space error nil.

II. Facing While Marching in Place.

1. $\frac{1}{8}$ turn L. [R.].

Command: Left [r.] — half — face! executive command given as either foot touches the ground, preferably the foot on the side to which turn is to take place.

Execution: The other foot marches in place once more, and when it touches the ground the $\frac{1}{8}$ turn in the direction indicated is made on the ball of this foot. The foot on which command was given at the same time begins a march in place movement which is completed in the new direction and then taken up by the foot on which the turn was made, and continued as before.

2. $\frac{1}{4}$ turn L. [R.].

Command: Left [r.]—face!

Execution: $\frac{1}{4}$ turn in the manner described under 1, with the same preference.

3. $\frac{3}{8}$ turn L. [R.].

Command: Left [r.] and half—face!

Execution: $\frac{3}{8}$ turn in manner described under 1, with the same preference.

4. $\frac{1}{2}$ turn L. [R.].

Command: Left [r.] about—face!

Execution: $\frac{1}{2}$ turn in the manner described under 1, with same preference.

N. B.—If two or more quarter turns are to be executed consecutively, the command is, Two [three, four] quarter turns left [right] —march! when a quarter turn is executed in the manner above described and immediately followed by as many more as the command calls for.

III. Facing While Marching from Place.

a) *While marching forward*

1. $\frac{1}{8}$ turn L. [R.] while marching forward.

Command: Left [r.] - - half - - face! executive command given as one foot touches the ground, preferably the foot on the side to which the turn is to be made.

Execution: The other foot advances one more step, touches the ground, and the $\frac{1}{8}$ turn is made on its ball. The foot on which the command was given is at the same time raised forward, and as the weight of the body is transferred and the turn made it takes the first step in the new direction, and the march is continued.

2. $\frac{1}{4}$ turn L. [R.] while marching forward.

Command: Left [r.]—face! given with the same preference as in 1.

Execution: $\frac{1}{4}$ turn in the same manner as described under 1.

3. $\frac{3}{8}$ turn L. [R.] while marching forward.

Command: Left [r.] and half—face!

Execution: $\frac{3}{8}$ turn in same manner as described under 1.

4. $\frac{1}{2}$ turn L. [R.] while marching forward.

Command: Left [r.] about—face! given with same preference as in 1.

Execution: $\frac{1}{2}$ turn in the manner described under 1.

b) *While marching sideward (true marching).*

5. $\frac{1}{8}$ turn L. [R.] while marching sideward L. [R.]

Command: Left [r.] half—face! executive command given as one foot touches the ground, preferably the one on the side to which the turn is to be made.

Execution: The other foot takes one more step and as it touches the ground the turn is taken on the ball of the foot, while at the same time the foot on which the command was given is raised and immediately begins the sideward march in the new direction.

6. $\frac{1}{4}$ turn L. [R.] while marching sideward L. [R.].
 Command: Left [r.]—face! given with same preference as in 5.
 Execution: $\frac{1}{4}$ turn, executed as described under 5.
 7. $\frac{3}{8}$ turn L. [R.] while marching L. [R.].
 Command: Left [r.] and half—face! given with same preference as in 5.
 Execution: $\frac{3}{8}$ turn as described under 5.
 8. $\frac{1}{2}$ turn L. [R.] while marching sideward L. [R.].
 Command: Left [r.] about—face! given as in 4, with same preference.
 Execution: $\frac{1}{2}$ turn in the manner described under 5.
- c) While marching sideward with follow step.*
9. $\frac{1}{8}$ turn L. [R.] while marching sideward L. [R.] with follow step.
 Command: Left [r.]—half—face! Executive command given as foot on side to which march is directed touches the ground.
 Execution: The other foot closes to position and the indicated turn is made on the ball of this foot, while the foot on which command was given is raised and immediately planted sideward in the new direction.
 10. $\frac{1}{4}$ turn L. [R.] while marching sideward L. [R.] with follow step.
 Command: Left [r.]—face! given as in 9.
 Execution: As described under 9, taking the $\frac{1}{2}$ turn.

11. $\frac{3}{8}$ turn L. [R.] while marching sideward L. [R.] with follow step.

Command: Left [r.] and half—face! given as in 9.

Execution: As described under 9, taking the $\frac{3}{8}$ turn.

12. $\frac{1}{2}$ turn L. [R.] while marching sideward L. [R.] with follow step.

Command: Left [r.] about—face! given as in 9.

Execution: As described under 9, taking the $\frac{1}{2}$ turn.

d) While marching backward.

13. $\frac{1}{8}$ turn L. [R.] while marching backward.

Command: Left [r.] half—face! Executive command given as one foot touches the ground, preferably the foot on the side to which the turn is to be taken.

Execution: The other foot takes one more step backward, and as it touches the ground the indicated turn is made on the ball of this foot, while the foot on which the command was given is raised and on the completion of the turn proceeds backward in the new direction.

14. $\frac{1}{4}$ turn L. [R.] while marching backward.

Command: Left [r.]—face! given as under 13, with the same preference.

Execution: $\frac{1}{4}$ turn in the manner described under 13.

15. $\frac{3}{8}$ turn L. [R.] while marching backward.

Command: Left [r.] and half—face! given as under 13, with same preference.

Execution: $\frac{3}{8}$ turn in manner described under 13.

16. $\frac{1}{2}$ turn L. [R.] while marching backward.
 Command: Left [r.] about—face! given as under 13. with same preference.
 Execution: $\frac{1}{2}$ turn in the manner described under 13.

C. FACING AND MARCHING FROM A STAND.

I. Facing and Marching in Place.

1. $\frac{1}{8}$ turn and march in place.
 Command: Half face left [r.] and in place—march!
 Execution: On the command march, the left foot is raised from the ground, the indicated turn is made on the *ball* of the stationary foot, and the other immediately begins marching in place.
2. $\frac{1}{4}$ turn and march in place.
 Command: Face left [r.] and in place—march
 Execution: As described under 1.
3. $\frac{3}{8}$ turn and march in place.
 Command: Face left [r.] and half and in place—march!
 Execution: As described under 1.
4. $\frac{1}{2}$ turn and march in place.
 Command: Face left [r.] about and in place—march!
 Execution: As described under 1.

II. Facing and Marching from Place.

a) *Forward.*

1. $\frac{1}{8}$ turn and forward march.
 Command: Half face left [R.] and forward—march!

Execution: On the command march, the left foot is raised forward and at the same time the specified turn is made on the ball of the right foot, the body weight is transferred and the placing of the raised foot begins the forward march.

2. $\frac{1}{4}$ turn and forward march.

Command: Face left [r.] and forward march!

Execution: $\frac{1}{4}$ turn as described under 1.

3. $\frac{3}{8}$ turn and forward march.

Command: Face left [r.] and half and forward—march!

Execution: $\frac{3}{8}$ turn as described under 1.

4. $\frac{1}{2}$ turn and forward march.

Command: Face left [r.] about and forward—march!

Execution: $\frac{1}{2}$ turn as described under 1.

b) Sideward (true marching).

5. $\frac{1}{8}$ turn and sideward march.

Command: Half face left [r.] and sideward left [r.]—march!

Execution: On the command march, the left foot is raised from the ground. At the same time the specified turn is taken on the ball of the right foot, and the raised foot is placed sideward, thus beginning the march.

6. $\frac{1}{4}$ turn and sideward march.

Command: Face left [r.] and sideward left [r.]—march!

Execution: $\frac{1}{4}$ turn in the manner described under 5.

7. $\frac{3}{8}$ turn and sideward march.

Command: Face left [r.] and half and sideward left [r.]—march.

Execution: $\frac{3}{8}$ turn in the manner described under 5.

8. $\frac{1}{2}$ turn and sideward march.

Command: Face left [r.] about and sideward left [r.]—march!

Execution: As described under 4.

c) Sideward with follow step.

9. $\frac{1}{8}$ turn.

Command: Half face left [r.] and follow step left [r.]—march!

10. $\frac{1}{4}$ turn.

Command: Face left [r.] and follow step left [r.]—march!

11. $\frac{3}{8}$ turn.

Command: Face left [r.] and half and follow step left [r.]—march!

12. $\frac{1}{2}$ turn.

Command: Face left [r.] about and follow step left [r.]—march!

Execution of 9, 10, 11 and 12. As described under 5, except that after the first step the sideward marching is done with the follow step instead of with the crossing of one foot over the other.

N. B.—The turn may be taken either in the direction of the march, e. g., left face with sideward left march, or in the opposite direction from that of the march, e. g., left face with sideward right march.

d) Backward.

13. $\frac{1}{8}$ turn and backward march.

Command: Half face left [r.] and backward—march!

Execution: On the command to march, the left foot is raised from the ground; at the same time the specified turn is made on the ball of the right foot, and the raised foot being placed

backward and the weight transferred to it, thus begins the backward march.

14. $\frac{1}{4}$ turn and backward march.
Command: Face left [r.] and backward—march!
Execution: As described under 13.
15. $\frac{3}{8}$ turn and backward march.
Command: Face left [r.] and half and backward—march!
Execution: As described under 13.
16. $\frac{1}{2}$ turn and backward march.
Command: Face left [r.] about and backward—march!
Execution: As described under 13.

D. FACING AND HALTING FROM A MARCH.

I. From Marching in Place.

1. $\frac{1}{8}$ turn and halt.
Command: Half face left [r.] and—halt!
 2. $\frac{1}{4}$ turn and halt.
Command: Face left [r.] and—halt!
 3. $\frac{3}{8}$ turn and halt.
Command: Face left [r.] and half and—halt!
 4. $\frac{1}{2}$ turn and halt.
Command: Face left [r.] about and—halt!
- Execution of 1, 2, 3, and 4: The command halt is given as the foot of the side to which turn is to be made touches the ground. The other foot executes one more march in place, and as it touches the ground the specified move is made on the ball of this foot. The foot on which the command was given having meanwhile been raised for one more march in place, ends the move by closing to position.

II. From Marching from Place.

a) *From marching forward.*

1. $\frac{1}{8}$ turn and halt.
Command: Half face left [r.] and—halt!
2. $\frac{1}{4}$ turn and halt.
Command: Face left [r.] and—halt!
3. $\frac{3}{8}$ turn and halt.
Command: Face left [r.] and half and—halt!
4. $\frac{1}{2}$ turn and halt.
Command: Face left [r.] about and—halt!

Execution of 1, 2, 3, and 4: The command halt is given as the foot of the side to which turn is to take place touches the ground. The other foot takes one more step forward, and the specified turn is made on the ball of that foot. The foot on which the command was given having meanwhile been raised, ends the move by closing to position.

b) *From marching sideward (trac marching).*

5. $\frac{1}{8}$ turn and halt.
Command: Half face left [r.] and—halt!
6. $\frac{1}{4}$ turn and halt.
Command: Face left [r.] and—halt!
7. $\frac{3}{8}$ turn and halt.
Command: Face left [r.] and half and—halt!
8. $\frac{1}{2}$ turn and halt.
Command: Face left [r.] about and—halt!

Execution of 5, 6, 7, and 8: Command halt is given as the foot on the side to which marching is directed touches the ground. The other foot takes one more step sideward, and as it comes to the ground the turn is made on the ball of this foot. The foot on which the command was given having at the same time been raised ends the move by closing to position.

c) *From marching sideward with follow step.*

9. }
 10. } Commands the same as under 5, 6, 7, and 8,
 11. } respectively.
 12. }

Execution: Command halt is given as foot on side to which marching is directed touches the ground. The other foot closes to position and the specified turn is made on the ball of this foot. The other foot having meanwhile been raised, ends the movement by closing to position.

d) *From marching backward.*

13. $\frac{1}{8}$ turn and halt.

Command: Half face left [r.] and—halt!

14. $\frac{1}{4}$ turn and halt.

Command: Face left [r.] and—halt!

15. $\frac{3}{8}$ turn and halt.

Command: Face left [r.] and half and—halt!

16. $\frac{1}{2}$ turn and halt.

Command: Face left [r.] about and—halt!

Execution of 13, 14, 15, and 16: Command halt is given as foot on side to which turn is to be taken touches the ground. The other foot takes one more step backward and as it touches the ground the specified turn is made on the ball of this foot. The other foot, having meanwhile been raised from the ground, ends the move by closing to position.

E. FACING AND CHANGING THE MODE AND DIRECTION OF THE MARCH.

I. From Marching in Place.

1. $\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and forward march.

Commands: Half face left [r.], [face left [r.], face left [r.] and half, face left [r.] about] and forward—march!

Execution: The executive command is given as the foot on the side toward which the turn is directed touches the ground. The other foot is raised and replaced in marching—in—place fashion and on the ball of this foot the turn is made in the direction and of the degree indicated by the command while the foot on which the command was given immediately begins the march forward.

2. $\frac{1}{8}$ [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and sideward march.

Commands: Half face left [r.], [face left [r.], face left [r.] and half, face left [r.] about] and sideward left [r.]—march!

Execution: The executive command is given as the foot on the side toward which the sideward march will be directed touches the ground. The other foot marches in place once more, and on the ball of this foot the turn is made in the direction and of the degree indicated by the command while the foot on which the command was given immediately begins the march sideward.

3. $\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and follow step L. [R.] march.

Commands: Half face left [r.], [face left [r.], face left [r.] and half, face left [r.] about] and follow step left [r.]—march!

Execution: As under 2 but march sideward with follow step after turn.

4. $\frac{1}{8}$ [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and backward march.

Commands: Half face left [r.], [face left [r.], face left [r.] and half, face left [r.] about] and backward—march!

Execution: As under 1 but march backward after turn.

II. From Marching Forward.

1. $\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn L. [R.] and march sideward L. [R.].

Command: Half face left [r.], [face left [r.]—face left and half, face left [r.] about] and sideward left [r.]—march!

Execution: Executive command is given as the foot on side towards which the new marching is to be done comes to the ground. The other advances one more step, on the ball of it the turn is executed and the other foot having been raised from ground commences then the marching in new mode or direction, in this instance sideward left [r.].

2. $\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and follow step sideward.

Commands: Half face left [r.], [face left [r.], face left [r.] and half, face left [r.] about] and follow step left [r.]—march!

Execution: As under 1, but sideward march with follow step.

3. $\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and march backward.

Commands: Half face left [r.], [face left [r.], face left [r.] and half, face left [r.] about] and backward—march!

Execution: As under 1, but marching backward after turn.

4. $\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and march in place.

Commands: Half face left [r.], [face left [r.], face left [r.] and half, face left [r.] about] and in place—march!

Execution: The executive command is given as the foot on side to which turn is made touches the ground. The other foot takes one more step forward, on the ball of it is made the turn in the direction and of the degree indicated by the command, when the marching in place is begun with the foot on which the command was given.

III. From Marching Sideward Left (Right).

$\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and

1. March sideward in opposite direction.
2. March sideward in opposite direction with follow step.
3. March forward.
4. March backward.

Commands: Half face left [r.], [face left [r.], face left [r.] and half, face left [r.] about] and 1, sideward right [left]—2, follow step right [left]—3, forward—4, backward—march!

Execution: For all changes except follow step in opposite direction after a turn in same direction, as in II, 1, reading marching sideward, forward, backward. When changing from marching sideward left [right] after facing left [right] to follow step sideward right [left], after the turn has been taken as usual, the free foot having been raised executes one marching step in place when the other begins the follow step in the new direction.

5. $\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn left [r.] and march in place.

Command and execution as in II, 4.

IV. From Follow Step Left (Right).

$\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and

1. March sideward right [left];
2. Follow step sideward right [left];
3. March forward;
4. March backward.

Commands: Half face left [r.], [face left [r.], face left [r.] and half, face left [r.] about] and —1, sideward right [left]—2, follow step right [left]—3, forward—4, backward—march!

Execution: As in III, with same exception.

5. $\frac{1}{8}$ [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn l. [R.] and march in place.

Commands and execution as in II, 4.

V. From Marching Backward.

$\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and

1. March forward.
2. March sideward L. [R.].
3. Follow step L. [R.].

Commands: Half face left [r.], [face left [r.], face left [r.] and half, face left [r.] about] and 1, forward—2, sideward left [right]—3, follow step left [right]—march!

Execution: As in II.

4. $\frac{1}{8}$, [$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$] turn and march in place.

Commands and execution as in II, 4.

F. CURVILINEAR MARCHING.

If facing of smaller degree than $\frac{1}{8}$ turn be combined with each marching step of the different modes and directions of marching from place we have the marching in curves.

The most regular, well-known and therefore the most easily executed curve is the circle. It lends itself to tactic performance; it is, of course, a form of tactic movement of the individual. Since, however, its ease of performance as well as accuracy of execution is enhanced by furnishing a visible and tangible center for the circle, it is customary to have it performed in ranks of two, one individual serving as a center while the other performs the circling. The circling may be performed not only by marching in the several modes and directions, but also by running, skipping and the various dancing steps.

I. Circling in Front Rank of Two Individuals.

$\frac{1}{1}$, $\frac{1}{2}$, $\frac{1}{4}$ circle L. [R.] executed by the individual standing R. [L.].

1. Individual standing right circles left.

Command: The right one, circle [half-circle, quarter-circle] left—march!

Execution: The individual performs a circle (or that part of a circle indicated by the command) to the left around the individual on his left by marching forward and turning left 45° with each count. As the arc traversed is, in extent, the same as the individual in a wheeling rank of two would traverse, we shall allow two counts for each quarter circle. As the last count is for the closing of the feet, it means one step less than the number of counts allowed.

2. Individual standing left circles right.

Command: The left one circle [half-circle, quarter-circle] right—march!

Execution: As in (1) except that the turning is right.

3. Individual standing right circles right.

Command: The right one circle [half-circle, quarter-circle] right—march!

Execution: As in (1) but the marching is backward and the turning is right.

4. Individual standing left circles left.

Command: The left one circle [half-circle, quarter-circle] left—march!

Execution: As in (2) but the marching is backward and the turning is left.

II. Circling in Flank Rank of Two Individuals.

$1/1$, $1/2$, $1/4$ circle L. [R.] executed by the individual standing in front or rear of the rank.

1. Individual standing in front circles left.

Command: The front one circle [half-circle, quarter-circle] left—march!

Execution: The individual standing first in the rank describes as much of a circle as the command indicates by marching sideward left around the other individual with true sideward march or follow step, turned 45° left on each count, the number of counts being two for each

quarter circle. In follow stepping the closing movement is not counted.

2. Individual standing in front circles right.

Command: Front one circle [half-circle, quarter circle] right—march!

Execution: As in (1) except sideward marching and turning are right.

3. Individual standing in rear circles left.

Command: Rear one circle [half-circle, quarter-circle] left—march!

Execution: As in (1) but the sideward marching is to the right.

4. Individual standing in rear circles right.

Command: Rear one circle [half-circle, quarter-circle] right—march!

Execution: As in (1) but the march is sideward left and the turning is to the right.

* * * * *

Circling may, naturally, be performed in ranks of more than two individuals. The execution is the same as above except for the number of counts necessary for the performance of the movement. Here the rule is that one allows the individual as many counts for each quarter-circle as he is persons removed from the center. Thus, if the fifth man in a rank circles, he is given five counts for each quarter-circle.

III. Circling in Front Rank of Two Individuals with About Facing on First and Last Counts.

1. Individual standing right faces R. [L.] about and circles right.

Command: Right one face right [l.] about and circle [half-circle, quarter-circle] right—march!

Execution: Performing right [l.] about face and forward march on the first count, the individual standing right circles right around the other individual, facing right about and halting on last count.

2. Individual standing left faces L. [R.] about and circles left.

Command: Left one face left [r.] about and circle [half-circle, quarter-circle] left—march!

Execution: As in (1).

3. Individual standing right faces left [r.] about and circles left.

Command: Right one face left [r.] about and circle [half-circle, quarter-circle] left—march!

Execution: The right one faces left [r.] about and marches backward on first count, circling around the other individual, turning left [r.] about and halting on last count.

Execution: Turning left [r.] about, the individual marches sideward right around the other individual, facing left [r.] about and halting on last count.

4. Individual standing left faces left [r.] about and circles right.

Command: Left one face left [r.] about and circle [half-circle, quarter-circle] right—march!

Execution: As in (3).

IV. Circling in Flank Rank of Two Individuals with About Facing on First and Last Counts.

1. Individual standing in front faces left [r.] about and circles left.

Command: Front one face left [r.] about and circle [half-circle, quarter-circle] left—march!

2. Individual standing in front faces left [r.] about and circles right.

Command: Front one face left [r.] about and circle [half-circle, quarter-circle] right—march!

Execution: As in (1) except that the march is sideward left.

3. Individual standing in rear faces left [r.] about and circles right.

Command: Rear one face left [r.] about and circle [half-circle, quarter-circle] right—march!

Execution: On the first count the individual faces left [r.] about and marches sideward right facing left about and halting on last count.

4. Individual standing in rear faces left [r.] about and circles left.

Command: Rear one face left [r.] about and circle [half-circle, quarter-circle] left—march!

Execution: As in (3) except that the march is sideward left.

G. ALL THE EXERCISES.

Contained in Chapters A—F Executed While Running.

Running forward, sideward, sideward with follow step, backward, will of course have to be thoroughly mastered first before tactics are attempted while running. Likewise must a tactic exercise be acquired perfectly in the different modes of marching before it should be executed in a run. Tactics in running are more difficult than the corresponding exercises in marching on account of the shorter time given for thinking and the greater momentum to be overcome in changing directions, etc.

The exercises are executed according to the rules for the corresponding moves in marching. It goes without saying, that the simpler tactics of the individual can be done while running, before the more complicated ones are taught while marching. The commands are the same as before given, substituting the word "run" for "march."

H. The Exercises of Chapters A, II, III and IV Done While Changing from a March to a Run or Vice Versa.

When the exercises of the above named chapters have been acquired while marching or running they may now be repeated so as to involve such a change as, for instance, from marching forward to a run sideward, from running forward to face and march sideward, etc., etc.

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PREFACE

Tactics of the Rank may be used for the same purpose as the Tactics of the Individual, namely, to shorten reaction time and to cultivate the power of discrimination. For the former purpose, they are not as efficient, generally speaking, as the Tactics of the Individual; but since their variety is rather greater than that of Tactics of the Individual, their usefulness for the latter object is thereby enhanced.

The method of arriving at the two objects is essentially the same as that used in Tactics of the Individual. The Tactics of the Rank are applied arithmetic, geometry and physics. They teach these disciplines in an objective manner and may readily supplement the teaching of those branches in the class room. On another occasion I have enlarged upon what one may teach by the simple movement of quarter wheeling. If a quarter wheel may teach such a great variety of things, what will not the many other forms of Tactics of the Rank teach? Choice of action, judgment, is not exercised in any form of tactics, and therefore not in Tactics of the Rank. Other forms of gymnastic activity must step in for this purpose. Concerted action, team work, leadership and loyal fellowship, however, find an efficient exponent in Tactics of the Rank. The idea that these desirable qualities can only be gotten through plays and games is certainly erroneous.

I shall take occasion at some future time and in another place to dilate upon this particular point. As this booklet is intended as a systematic arrangement of Tactics of the Rank no hints on the method of their use in a system of gymnastics are here given. It is the function of normal school training to furnish these.

E. H. ARNOLD.

New Haven, Connecticut.

February, 1915.

PREFACE TO SECOND EDITION

Except for the correction of a few inaccuracies of description and typographical errors and a few minor additions the second edition goes out without any important alterations.

E. H. A.

New Haven, Conn., December, 1921.

TACTICS

Part II

TACTICS OF THE RANKS

INTRODUCTORY

Purpose.

A rank is a tactic formation which makes it possible for two or more individuals to act tactically as one.

Conditions.

If action in the rank is the reaction to stimuli it stands to reason that in order to react as one, the members of the rank must feel as one. They must be put in a position wherein they have the same relation to any stimulus to be received. As our movements are mainly directed in space by means of the sense of sight they must, for instance, have the same relation to any visual stimuli that might reach them. They must in other words see the same things at the same time or be given a chance to do so at any rate.

The fulfillment of this imposes several conditions upon the arrangement of such a tactic body.

First Condition: The individuals composing this tactic body, viz.: the rank must be so related one to the other that one and the same axis of each individual falls into a straight line with the corresponding axis of each and every other individual.

Second Condition: Upon this straight line the individuals composing the rank must be so arranged that they face in the same geographical direction.

Limitations.

As far as the members of the rank must react as one to auditory stimuli they must, of course, likewise be in position to hear the same thing at the same time. The matter of arrangement as to facing in a direction is fairly unimportant in this regard. However, since sound travels comparatively slow there is a practical limitation to the size of a rank. Assuming the reaction time of common people to be one-fifth of a second and putting the velocity of sound in round numbers at three hundred yards it stands to reason that people will react to an auditory stimulus at the same time only within a radius of sixty yards, one hundred and eighty feet. A rank, or for that matter any other tactic unit, which is to react with exactness as to time must then not be larger in extent than one hundred and eighty feet in any one direction.

Reaction as guided by the sense of sight has, of course, no time difficulties since light travels so fast that a sight stimulus would be received by the members of a rank of any imaginable size at the same time making possible simultaneous exact reaction in response to it. There is, however, a limitation to the size of a rank even if reaction is easy in response to sight stimuli. The well known fact that a straight line of any extent becomes curved for practical purposes of sight puts its limitation upon the size of ranks.

Long parallel lines converge. In architecture, long straight lines have to be curved in order to appear straight. This, of course, is without any practical importance as far as tactic practice in a gymnasium is concerned. In military tactics where one might deal with regimental fronts it becomes, however, a matter of practical importance.

Definition.

A rank is a tactic body composed of two or more individuals so arranged that one and the same axis of

each individual falls into a straight line with the corresponding axis of every other member of the rank, all members facing in the same geographical direction.

Varieties of Ranks.

- (1) Front Rank.
- (2) Flank Rank.
- (3) Left Oblique Rank.
- (4) Right Oblique Rank.

(1) Front Rank.

A front rank consists of two or more individuals facing in the same geographical direction, so arranged that one and the same broad axis of every member falls into a straight line with the corresponding board axis of each and every other member of the rank.

The name is given the rank because in this formation all the fronts of the individuals are in plain and unobstructed view, making this the main characteristic of the formation.

Note:—For tactic purposes the body is supposed to have four vertical surfaces, to wit; front, left, right, rear. The front and rear, as well as left and right, are parallel. Front and rear run at right angles to left and right. A broad axis of the body runs left to right, parallel with front and rear. It may traverse the body at any height and depth.

(2) Flank Rank.

The flank rank consists of two or more individuals all facing in the same geographical direction, so arranged that one and the same deep axis of every member of the rank falls into a straight line with the corresponding deep axis of each and every other member of the rank.

The name is derived from the fact that this formation gives an unobstructed view of both flanks of every member of the rank, making this the main characteristic of the formation.

Note:—The deep axis runs from front to rear, parallel with left and right. It may traverse the body at any height or width.

(3) Left Oblique Rank.

The left oblique rank is formed by two or more individuals facing in the same geographical direction, so arranged that one and the same left oblique axis of every member falls into a straight line with the corresponding left oblique axis of each and every other member of the rank.

The name is given as the obliquity is the most conspicuous feature, all surfaces being equally visible and equally much hidden from view.

Note:—The left oblique axis runs diagonally from the intersection of rear and right surfaces to the intersection of front and left surfaces. It may traverse the body at any height.

(4) Right Oblique Rank.

The right oblique rank is formed by two or more individuals facing in the same geographical direction so arranged that one and the same right oblique axis of every member falls into a straight line with the corresponding right oblique axis of each and every other member of the rank.

Note:—The right oblique axis runs diagonally from the intersection of rear and left surfaces to the intersection of front and right surfaces. It may traverse the body at any height.

The Activities of the Ranks.

Formation (alignment).
 Dressing.
 Marching.
 Wheeling.
 Angle Marching.
 Transforming.
 Opening and Closing.

A. FORMATION

1. Forming the Front Rank

Command: Fall in!

Execution: The commander, before giving this command, stands in position, then gives the command as above. Thereupon the tallest member of the rank to be formed stands opposite the commander, facing him at a distance of five or six steps. The other members of the rank to be formed arrange themselves on the left of the tallest member, according to height, the smallest member standing on the extreme left of the rank, all this so that all the members of the rank face the same way as the tallest member (i. e., facing the commander) and so that one and the same broad axis of each and every member falls into a straight line with the corresponding broad axis of the tallest member of the rank and thereby of necessity into a straight line with the corresponding broad axis of each and every other member of the rank.

The necessity for the existence of the rank having terminated, the rank is dispersed by the counter-

Command: Break rank (s)—march!

Execution: At this command the members of the rank are free to go their own way.

Note:—The rank may consist of no less than two and of any greater number of members. The arrangement of the rank according to height must, of course, be made before the same can fall in, in the above manner. The methods by which this is done are many. A convenient one to arrange a large class in comparatively short time is as follows. The class is on a gymnasium floor in disorder. The teacher, having asked the pupils to stand with their backs toward the wall, starts at any convenient place in the room to divide off the class in sections of ten or twelve. He himself does the counting, and

as he counts the number one of each section he announces him to be leader of section one; leader of section two, etc. The pupils are now made to face right or left, but so that they all face in the direction of the first leader and section, and then the sections march forward in angle march fashion around the room and by angle marching left or right as the several sections come up one after the other to a common center, the sections are in flank rank formation, all facing the common center, forming thereby a star of as many rays as there are sections. In the center of this star the teacher stands. The teacher now asks each section to arrange itself quickly so that the tallest member of the section be the nearest to the center of the star, the others according to height behind him, so that the smallest are on the very outside of the ray and star. The commander has now in the inner part of the star all the tallest members of the class. It is comparatively easy to pick the tallest one from these and have him march off, the others being picked out according to height, one after the other, following the tallest one in flank formation around the room. We have then a large flank rank led by the tallest member of the class, the smallest bringing up the rear. This rank is faced left, the pupils asked to acquaint themselves with their neighbors on the left and right, so as to enable them to find one another. This might as well be made the occasion to go through the formalities of an introduction and thus give a chance to teach manners. The "falling in" in front rank formation is next explained. The informally-formed front rank is dispersed by the command: Break rank—march! and practice in "falling in" by a command in above fashion is next given. In order that the pupils be independent of surroundings it is well that the commander change his position in the gymnasium, making the rank fall in at any place he chooses. With beginners it is better to have the commander stand so that when his rank falls in, its

broad axis should run parallel with one of the walls. Later he may vary his position so as to bring the rank at varying angles to the walls.

This method taught indoors a few times makes it possible to have any rank fall in outdoors and on any piece of ground, no matter what its shape or condition.

II. Forming the Flank Rank

The flank rank is formed out of the front rank, which has been previously formed in the above fashion, by having the individuals face right or left.

III. Forming the Left Oblique Rank

The left oblique rank is formed out of a front rank previously formed in the fashion given by a half face left of the individuals composing the rank.

IV. Forming the Right Oblique Rank

The right oblique rank is formed out of a front rank previously formed in the usual way by a half face right of the individuals composing the rank.

B. DRESSING

Purpose: To establish the surface and distance relations of the members of a rank with such exactness as to enable the rank to move as one body.

Preliminary: No accurate tactic movement is possible unless the members of the rank stand in proper position. The command, "Fall in" is then followed by the

Command: In position—stand!

Execution: At this command the individuals stand in erect position thus: the heels closed; the front of the feet form an angle of 45 to 60 degrees; the knees well straightened in touch one with the other if possible; the hips well extended; the trunk well erect on the hips; the arms hanging with elbows bent nat-

urally at the side; the fingers closed; the thumb resting against the middle anteroposteriorly of the lateral surface of the thigh; the head carried erect; eyes directed forward. The simplest way of accomplishing all that is desirable in the matter of good standing position is the advice to "be tall." This accomplishes everything except perhaps the position of the arms which in Tactics of the Individual is unimportant.

The necessity for standing in position having passed, the commander gives the counter-

Command: In place—rest!

Execution: To be sure that the pupil may really rest he may assume any standing attitude which suits his convenience and his demand for rest. The condition that he rest "in place" makes it necessary that one of the feet, left or right as he prefers, should stay immovably in place.

1. Dressing the Front Rank

Command: Right (left)—dress!

Execution: At this command the right (left) leader stands immovable. The members of the rank on his left (right) turn their heads to the right (left), and move with short steps forward or backward till they find themselves in straight line, with short steps left or right till they find themselves at proper distance.

Note 1:—The criterion of being in a straight line is had in the fact that one can have an unobstructed view of the face of only one's very next neighbor. The faces of the neighbors further removed on that side to which the dressing is directed are either totally invisible or only the mere outline of the side of the face is visible. The front of the face of the guide on the side to which the dressing is directed, on the other hand, is fairly visible en profile.

Note 2:—In the dressed front rank no distance intervenes between the members of the rank, but they are in touch by means of the fore-arm. As soon as the merest sensation of touch with a neighbor by this part is experienced the proper distance relation is established. Touch is sought with only that fore-arm which is on the side toward which the dressing is directed.

The dressing of the rank having proceeded to the exactness desired by the commander, he gives the counter-

Command: Front!

Execution: At this command the heads of all the members of the rank previously turned to right (left) are now turned forward.

II. Dressing the Flank Rank

Command: Front—Dress!

Execution: The front member of the rank stands immovable. The members of the rank in his rear look directly forward, moving with short steps left and right, till they find themselves in a straight line, with short steps forward or backward till they find themselves at proper distance.

Note 1:—The criterion of being in a straight line is had in the fact that one can have an unobstructed view of the rear of the head of only one's next neighbor.

Note 2:—The proper distance between individuals in a flank rank is the difference between the greatest broad and greatest deep extent of the individual. In the case of the average person unarmed this amounts to a distance of six to ten inches. It is my custom not to give any arbitrary measure in inches or in arm's length but to have the pupil learn to judge this difference by repeatedly experiencing this distance relation when the rank is changed

from a front to a flank rank, and vice versa. It is observed that in pretty stout people the greatest deep extent may be greater than the broad. It is likewise true that the greatest deep extent of a person "carrying arms" is different from the greatest deep extent of the same person with "right shoulder arms." As in gymnastics and especially in gymnastic tactics the pupils are usually unarmed, or if armed with wand or sabre or foil they are usually, in the position of carrying arms, the above rule may be allowed to stand.

Gymnastic practice will usually maintain the proper relation of deep to broad extent, and if it should have been unfortunately lost, gymnastic practice certainly can and will restore it. Wherefore the above rule may once more be allowed to stand.

The dressing of the flank rank having proceeded to the exactness desired by the commander, we find ourselves at a loss for a counter command to signify the end of the movement. This brings to our notice the imperfections of the flank rank as a rank. Its dressing is imperfect because the members do not feel as one. Not being united by touch, they do not judge of their proper relation except by the view of one member of the rank. They can not be guided by the leader because he is obscured from their view. All this will make the movements of the flank rank much more difficult than those of the front rank if they are to be executed with any degree of exactness. While, therefore, we shall find in our practice the flank rank much in use we must be aware that it is a most imperfect and unsatisfactory rank to work from a tactic standpoint.

III. Dressing the Left Oblique Rank

Command: Left—dress!

Execution: The left leader stands immovable. All the members of the rank on his right turn their

heads to the left, and with short steps forward and backward, get themselves into a straight line relation, with short steps left and right, sight themselves into proper distance relation.

Note 1:—The criterion of straight line relation is had in the fact that all members of the rank except the one next to the left leader can see only the right side of the head of the next adjoining left neighbor. The head of the neighbor on the left further removed is either invisible or a mere outline. The front of the face of the leader, on the other hand, is visible en profile.

Note 2:—Proper distance between members of an oblique rank is equal to the difference between the greatest broad and the greatest left oblique extent.

The dressing of the rank having proceeded to the exactness desired by the commander he gives the counter-

Command: Front!

Execution: At this command the heads of all members whose heads were, under the former command, turned to the left revert to the front.

IV. Dressing the right Oblique Rank

Command: Right—Dress!

Execution: The right leader stands immovable. All the members of the rank on his left turn their heads to the right and with short steps forward and backward, sight themselves into a straight line relation, with short steps right and left sight themselves into proper distance relation.

Note 1:—The criterion of straight line relation is had in the fact that all members of the rank except the one next to the right leader can see only the left side of the head of the next adjoining right neighbor. The head of the neighbor on the right further removed is either invisible or a mere outline. The

front of the face of the leader, on the other hand, is visible en profile.

Note 2:—Proper distance between members of an oblique rank is equal to the difference between the greatest broad and greatest right oblique extent.

The dressing of the rank having proceeded to the exactness desired by the commander, he gives the counter-

Command: Front!

Execution: At this command the heads of all members whose heads were, under the former command, turned to the right, revert to the front.

C. MARCHING

The **purpose** of marching of the rank is to change the distance relation of the rank to its surroundings. As this is the only purpose it follows that the surface relations of the rank to its surroundings remain unchanged and that the nature of the rank (front, flank, oblique) stays unchanged, as does likewise its internal arrangement (i. e., the member of the rank standing first, last, right or left keeps his respective place in the rank).

I. The Front Rank Marches

Preliminary: No rank must be ordered to march unless it has previously been dressed. No rank can be dressed unless its members stand in position. (See preliminary under dressing.)

1. The front Rank Marches Forward.

Command: Forward—march!

Execution: Immediately following the command the rank marches forward, keeping up its dressing to the right with this modification that it is not necessary to turn the head right, as turning of the eyes will suffice to keep the rank straight. The right

guide sets the time and the step for the rest to follow. This imposes upon the right guide the setting of such time and step as the members of his rank can follow. The right guide also is responsible for having the rank march forward in a straight line. In order to accomplish this he puts himself in straight line relation with a series of points in front of him lying in a straight line.

The criterion of their being in a straight line is found in the fact that from the standpoint of the guide only the point nearest to him is visible while this point covers those lying farther away. As the march proceeds and the guide comes upon this next point it will become necessary that he project his straight line farther into space by picking up successively points lying farther away and in the same straight line, using the above criterion for their being in a straight line.

The rank having arrived at the place intended by the commander, he gives the counter-

Command: Halt!

Execution: The rank comes to a halt in the manner prescribed for the halting of the individual (See Tactics of the Individual), perfecting its dressing to the right and then turns head and eyes forward without command.

2. The Front Rank Marches Sideward.

a. True marching left.

Command: Left—march!

Execution: At this command the rank begins to march sideward left in the manner described in "Tactics of the Individual." The members of the rank keep the rank coherent by keeping touch to the right. They keep the rank straight by sighting left. This sighting may be done by simply turning the eyes to the left. If this be insufficient the head may be turned left. The guide on the left sets the step

and time. He is also responsible for marching the rank in a straight line to the left. For this purpose he lays out a straight course for himself lying to the left of him, using the same scheme as outlined under "Forward—march!" To keep the rank coherent the left guide must be particular not to take steps larger than the rest of the rank can follow. He must remember that the size of the step in a front rank marching sideward is limited to the space intervening between the feet of members in the rank. Till he learns by experience the size of this step he must hold himself down to the proper size of step by scrupulously keeping touch to the right.

The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: At this command the rank comes to halt in the manner prescribed for the halting of the individual from true marching sideward left. (See Tactics of the Individual.)

As soon as the rank comes to a halt it dresses to the right by sight and touch, as prescribed in the former chapter on dressing of the front rank, and then heads are turned forward without command.

b. True marching right.

Command: Right—march!

Execution: At this command the rank marches to the right with true marching, beginning with left foot. It follows altogether the manner of marching to the left except that sight is directed right, touch left. It comes to a halt in the manner indicated above.

c. Follow step left.

Command: Follow step left—march!

Execution: At the preparatory command the members of the dressed front rank close their feet.

At the command "march!" they march left with follow step, placing the left foot so far sideward that it touches with its outer edge the outer edge of the right foot of the neighbor on the left. The right foot is closed to the left, inner edge to inner edge, and thus the march proceeds. Touch is kept to the right, sight is directed left by all members of the rank, they keeping themselves in a straight line with the one on the extreme left by the usual method. The one on the extreme left turns the head left and marches to the left in a straight line by the method indicated above.

The member on the left sets the time of the march but not the size of the step, the size of the step in the case of the front rank marching sideward with follow step being fixed by the distance between the left and right foot of neighbors. The leader must not exceed the size of this step else the rank will be torn apart. As the leader keeps his touch towards the rank he will thereby automatically restrict his step to the proper size.

The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: At this command the members of the rank halt in the manner prescribed for the halting of the individual from marching left with follow step. As the heels are closed the feet are opened to the usual angle (i. e., 60 degrees); the rank dresses to the right by sight and touch, and heads are then turned forward without command.

d. Follow step right.

Command: Follow step right—march!

Execution: The execution corresponds altogether to the one described for marching left with follow step, except that one starts the follow stepping with the right foot, and that touch is directed left, sight right. Halting is altogether as above given.

3. The Front Rank Marches Backward.

Command: Backward—march!

Execution: At this command the members of the rank march backward, beginning the march with the left foot; touch and sight are directed to the right. The sight is had by turning the eyes if that be sufficient, by turning the head if necessary. The member on the right of the rank looks straight forward and marches backward in a straight line, the criterion being that he is the third of a series of points lying in a straight line, of which points only the one nearest to him is in full view. As he loses sight of the others he picks up in succession points conforming to this rule. He sets the time and step for the rest of the rank.

The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: At this command the members of the rank halt in the manner prescribed under tactics of the individual for the halting from marching backward. The dressing of the rank after halting is to the right, that is to say, both touch and sight are right. Heads are then turned forward without command.

II. The Flank Rank Marches

1. The Flank Rank Marches Forward.

Command: Forward—march!

Execution: At this command the members of the rank march forward, the rank during its march dressing forward in the manner prescribed for the forward dressing of the flank rank. The front member of the rank marches forward in a straight line, using the method outlined under the marching of the front rank. He sets the time of the march.

The size of the step, however, is fixed for him, being determined by the interval between the members of the rank! The leader then must restrict himself to steps of that size. The members of the rank must of course take steps that equal the steps of the leader, that is to say, will likewise equal the interval between the members of the rank. In order to accomplish this they must step in the tracks of the one in front, that is to say, when stepping out with the left foot, the left foot must be placed along side of the right foot of the member in front, and not with its toe up to the heel of it.

The rank having arrived at its destination, one gives the counter-

Command: Halt!

Execution: At this command the members of the rank halt in prescribed manner. The dressing of the rank after the halt is to the front.

2. The Flank Rank Marches Sideward.

a. True marching left.

Command: Left—march!

Execution: The front member of the rank turns the head left and marches to the left in a straight line, using the criterion above mentioned. The other members of the rank dress to the front, keeping proper distance and in a straight line by the methods mentioned before. The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: The members of the rank halt in the manner prescribed by the tactics of the individual for true marching sideward. The front member of the rank turns the head to the front, the others retain their dressing to the front.

b. True marching right.

Command: Right—march!

Execution: The front member turns the head to the right and marches with true marching sideward (beginning with the left foot) in a straight line to the right, using the usual criterion for marching in a straight line. The other members of the rank dress to the front, while marching right. When the rank arrives at its destination the commander gives the counter-

Command: Halt!

Execution: Corresponds to that given above.

c. Follow step left.

Command: Follow step left—march!

Execution: The front member turns the head left and marches with follow step to the left in a straight line. The rest of the members of the rank by dressing forward keep themselves at proper distance and in a straight line while marching left with follow step. Criterion and methods as before given. There is of course no necessity in the flank rank for closing the feet when follow stepping. The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: The front member of the rank turns the head to the front while he and the rest of the members of the rank halt in prescribed manner. The dressing of the rank remains to the front.

d. Follow step right.

Command: Follow step right—march!

Execution: The front member turns the head right, otherwise the execution corresponds to the one given

for follow stepping left. When the rank is to halt the commander gives the counter-

Command: Halt!

Execution: As above given.

3. The Flank Rank Marches Backward.

Command: Backward—march!

Execution: The front member, looking straight forward marches backward in a straight line, according to the method prescribed before. He sets the time and step for the rest of the rank. The rest of the members dress forward and keep themselves at proper distance and in a straight line while marching backward. For the latter the usual criterion is made use of. In order to keep the members of the rank at proper distance it is necessary that each member should step backward into the tracks of the one in rear of him. As the length of the step is then limited to the distance from one member of the rank to another it is the duty of the front member to limit his step to this standard if his rank is to keep well dressed. The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: The members halt according to the rules laid down for the halting of the individual from backward marching. The dressing in the rank remains to the front.

III. The Left Oblique Rank Marches

1. The Left Oblique Rank Marches Forward.

Command: Forward—march!

Execution: The member on the left of the rank marches straight forward according to the usual

method, the other members of the rank, by sight left, keep themselves in straight line and at proper distance.

The sighting is accomplished by turning the eyes left as long as this is sufficient, by turning the head left whenever necessary. The member on the left of the rank sets the time and step. The rank arriving at its destination, the commander gives the counter-

Command: `Halt!

Execution: The halt is effected in the manner prescribed for forward marching of the individual. If the heads have been turned left they are now turned to the front.

2. The Left Oblique Rank Marches Sideward.

a. True marching left.

Command: Left—march!

Execution: As the members of the rank begin their march to the left the one on the extreme left of the rank turns his head left and marches in a straight line to the left, according to the methods before given. He sets time and step for the rank. The other members dress to the left by sighting left, turning eyes or head as necessity requires, and keeping themselves at proper distance and in a straight line by the usual methods. The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: Halting is done in the method prescribed for halting from marching left with true marching. The head of the left guide is turned to the front, the other members turn eyes or head to the front, as the case may be.

b. True marching right.

Command: Right—march!

Execution: As the members of the rank begin to march to the right with true steps, the member on

the left turns his head right and marches to the right in a straight line, using the usual criterion and method. The members of the rank on his right dress the rank to the left by sighting left, which will necessitate their turning the head left.

NOTE: The rank marches to the right, the leader responsible for the march both as to its safety and its straight line progression is on the left, his view obstructed by the members of the rank on the right. For all practical purposes an oblique rank can with safety and in tactic order only march in the direction of its obliquity.

The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: As the rank halts in the usual manner the heads of all members are turned to the front.

c. Follow step left.

Command: Follow step left—march!

Execution: The member on the left turns his head left and marches to the left in a straight line. He sets time and step for the rank. The other members keep themselves in a straight line and at proper distance by sighting left. The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: The halting is accomplished in the prescribed manner, the heads being turned to the front.

d. Follow step right.

Command: Follow step right—march!

Execution: The member on the left turns the head right and marches to the right in a straight line by the usual method. The other members of the rank turning their heads left, sight themselves into straight line and proper distance relation by the usual methods. (See Note III 2-b). The rank having

arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: As the halt is accomplished in the usual manner, the heads are turned to the front.

3. The Left Oblique Rank Marches Backward.

Command: Backward—march!

Execution: The left member of the rank looks straight forward and marches backward in a straight line by the usual method, setting time and step. The other members of the rank keep themselves in straight line and proper distance relation by turning the head left. The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: The halt is accomplished in the same manner; the heads are turned to the front.

IV. The Right Oblique Rank Marches

1. The Right Oblique Rank Marches Forward.

Command: Forward—march!

Execution: The member on the right of the rank marches straight forward according to the usual methods, the other members of the rank by sight right keep themselves in straight line and at proper distance. The sighting is accomplished by turning the eyes right as long as is sufficient, by turning the head whenever necessary. The member on the right of the rank sets the time and step. The rank arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: The halt is effected in the manner prescribed for forward marching of the individual. If the heads have been turned right they are now turned to the front.

2. The Right Oblique Rank Marches Sideward.

a. True marching right.

Command: Right—march!

Execution: As the members of the rank begin their march to the right the one on the extreme right of the rank turns his head right and marches in a straight line to the right, according to the methods before given. He sets time and step for the rank. The other members dress to the right by sighting right, turning eyes or head as necessity requires, and keeping themselves at proper distance and in a straight line by the usual methods. The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: Halting is done in the method prescribed for halting from marching right with true marching. The head of the right guide is turned to the front, the other members turn eyes or head to the front, as the case may be.

b. True marching left.

Command: Left—march!

Execution: As the members of the rank begin to march to the left with true steps the member on the right turns his head left and marches to the left in a straight line, using the usual criterion and method. The members of the rank on his left dress the rank to the right by sighting right, which will necessitate their turning the head right. (See Note III 2-6). The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: As the rank halts in the usual manner, the heads of all members are turned to the front.

c. Follow step right.

Command: Follow step right—march!

Execution: The member on the right turns his head right and marches to the right in a straight line. He sets time and step for the rank. The other members keep themselves in a straight line and at proper distance by sighting right. The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: The halting is accomplished in the prescribed manner, the heads being turned to the front.

d. Follow step left.

Command: Follow step left—march!

Execution: The member on the right turns the head left and marches to the left in a straight line by the usual method. The other members of the rank, turning their heads right, sight themselves into straight line and proper distance relation by the usual methods. (See Note III 2-6). The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: As the halt is accomplished in the usual manner, the heads are turned to the front.

3. The Right Oblique Rank Marches Backward.

Command: Backward—march!

Execution: The right member of the rank looks straight forward and marches backward in a straight line by the usual method, setting time and step. The other members of the rank keep themselves in straight line and proper distance relation by turning the head right.

The rank having arrived at its destination, the commander gives the counter-

Command: Halt!

Execution: As halting is accomplished in the same manner, the heads are turned to the front.

D. WHEELING

Purpose: Wheeling changes the surface relations of the rank to its surroundings without changing the nature or arrangement of the rank and without changing the distance relations of the rank to its surroundings. It transposes the rank. Wheeling holds the same relation to the tactics of the rank as facing does to the tactics of the individual. It is the facing of an individual extended to the left or right along its broad axis, forward or backward along its deep axis.

Directions: As facing is done left and right, so wheeling is done left and right.

Degrees: The type of wheeling is the quarter wheel corresponding to the quarter turn of facing. Only this type and its multiples are usually practiced, so we have quarter wheel, half wheel, three-quarters wheel and entire wheel.

The fixed point around which a rank turns in wheeling may lie without and within the rank. When lying within the rank it may lie in either extremity or any point in between.

Touch: As in the revolution of a body its component particles tend to motion in a straight line (centrifugal motion) these particles are kept together only in so far as the power of cohesion is greater than this centrifugal force. In the composite tactic body, which we call a rank, the same tendency makes itself naturally felt when it revolves. In order to prevent the breaking up of the body its component particles—in this case the tactic individuals—must

overcome this tendency by cohesion to which tactically we give the name of touch. This touch, of course, must be directed towards the fixed point, the pivot. We formulate, therefore, the rule that in all ranks the peculiar formation of which allows of touch of the individuals, the individuals must keep touch towards the fixed point (the pivot), when the rank is wheeling. It goes without saying that the pivot or fixed point does not seek touch in any direction.

Sight: Though touch insures the cohesion of the particles composing the rank while wheeling, it does not tend to keep the rank straight, and yet that is necessary if it is to wheel as a body. In order to insure this rigid straightness of the wheeling rank we must call on the sense of sight. To be guided by this sense the movements of the individuals by which the rest wish to be guided must be sufficiently large to be perceptible. As sight must be directed to one or the other extremity it is a question the movements of which extremity comply with this requirement under all circumstances in wheeling. As we shall see later on, the number of movements (steps) by which wheeling is accomplished is proportionate to the size of the rank, so that a rank of two, for instance, would accomplish this wheel in two movements; a rank of twenty would do the same in twenty movements. The pivot in the first case would traverse a right angle in two movements, in the case of the rank of twenty in twenty movements, that is to say, at each movement the pivot would traverse an angle of four and one-half degrees. To the average person, however, an angle of four and one half degrees is practically unknown. Most people know only two angles, namely, the straight angle, 180° because it forms a straight line and the right angle, 90° . As the linear velocity of the pivot in addition to this difficulty is nil, the members of the rank can not be guided by linear movements of the pivot. They can, therefore, not

look to the pivot for guidance in wheeling. In the case of the wheeling guide we have, of course, the same difficulty as far as angular velocity is concerned, for it is no greater than that of the pivot. However, the linear velocity of the wheeling guide is the greatest of any member of the rank. It offers, therefore, differences in position which can be with accuracy perceived, therefore we shall formulate this rule: the wheeling rank is to be kept straight by sight; sight is directed, wherever possible, to the wheeling guide.

The criterion for the rank being straight is the same as that given in the paragraphs on dressing.

Marching: (number of counts). The wheel is accomplished by the several individuals marching on an arc over an angle of ninety degrees. As a matter of course the angular velocity for all the members of the rank is ninety degrees. The linear extent of the arc which has to be traversed by the individuals differs. The pivot traverses an arc of ninety degrees, the linear extent of which is zero. The linear extent of the arc is directly proportionate to the size of the side of the angle. The side of the angle for any particular member of the rank can be measured by the width of the individuals that he is removed from the pivot. It might be said that approximately the linear extent of the arc through which an individual in a wheeling rank travels is equal to the distance, from that member to the pivot. The unit by which this distance is measured is the tactic individual. The unit by which we measure marching along a line, however, is not measured by individual widths, but by steps. We must reduce these two units to commensurability. We shall, therefore, make the tactic step equal to the width of the individual. This will make the arc to be traversed in wheeling by a given individual equal in number of steps to the number of individuals he is removed from the pivot. It would then appear that each individual may traverse the arc in a different num-

ber of steps, doing which the rank would be broken. The condition of wheeling as one body will make it necessary that all members of the rank should traverse their arc in accordance with the movements of the wheeling guide. He, being the one furthest from the pivot, will have the greatest number of steps to take. The others in order to keep themselves in straight line, must take as many steps as he does, and since they traverse then a smaller arc with an equal number of steps, it follows that their steps are smaller the nearer they are to the pivot. The arc is then traversed in as many movements as the rank numbers individuals. This makes the angular velocity of all individuals at all times equal. The linear velocity varies from zero at the pivot to the size of a full tactic step at the wheeling guide. It is for the purpose of measuring accurately the size of the step that sight is directed to the wheeling guide.

Projection: We have before seen that the coherence of the rank depends upon the pivot keeping his place and enabling thereby the rest of the rank to keep touch toward him. The rank can not be kept coherent unless the wheeling guide progresses with movements which can be followed. The wheeling guide, therefore, sets the pace, the time and the step of the march. In order to do this intelligently he must project on the ground a right angle. He looks down the rank towards the pivot, from there draws an imaginary line at right angles to the then position of the rank, on this line projects from the pivot the size of the rank, keeps this particular spot well in eye and marches for it. He divides the march then into as many movements as his rank counts members. As one movement is necessary to close the march with, when we march by true marching from a stand, it will be found necessary to formulate the rule as follows: A quarter wheel is accomplished in as many counts as there are members in the rank. These counts are full steps in follow stepping, and

whenever the wheel is done from in place or from place marching. In the case of true marching from a stand to a stand it will require as many counts as there are members in the rank, but there will be one step less than this number, the last count being required for closing to position.

Wheeling being a self limited movement, no counter command is needed.

I. The Front Rank Wheels

1. The Front Rank Wheels Around the Synonym Extremity.

a. Left around the left one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, $1/1$.

Command: A quarter wheel left—march!

Execution: With touch left, sight right, the members marching in circular manner forward, the wheel is accomplished according to above given rules in as many counts as the rank contains members.

Command: A half wheel left—march!

Execution: With touch and sight as above, the movement is accomplished in twice as many counts as the rank contains members.

Command: A three-quarters wheel left—march!

Execution: The movement is accomplished in three times as many counts as the rank contains members.

Command: A wheel left—march!

Execution: The movement is accomplished in four times as many counts as the rank contains members.

Note:—It is good practice in discriminating and in the discriminate use of language to distinguish between a half wheel and two quarter wheels, between three-quarters wheel and three quarter Wheels. In the case of a half wheel 180° of wheeling movement are taken without a stop, in the case of

two quarter wheels a stop is made behind each quarter. A three-quarters wheel is a wheeling movement of 270° without a stop while three-quarter wheels are a wheeling movement of 270° with a stop behind each 90° degrees.

b. Right around the right one.

Degrees: As above.

Commands: As above, substituting right for left.

Execution: As above, the touch being right, sight left.

2. The Front Rank Wheels Around the Non-Synonym Extremity.

a. Left around the right one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, $1/1$.

Command: A quarter wheel left around the right—march!

Execution: With touch right, sight left, the quarter wheel is accomplished according to the rules above given by marching backward in circular manner and in as many counts as there are members in the rank. The projecting activity of the wheeling guide deserves special mention; the projecting of the right angle having to be done here upon the two fixed points occupied by the pivot and the wheeling guide and the line connecting these two points.

Command: A half wheel left around the right—march!

Execution: As above, allowing twice as many counts for execution.

Command: Three-quarters wheel left around the right—march!

Execution: As above, using three times the number of counts.

Command: A wheel left around the right—march!

Execution: As above, allowing four times the number of counts.

b. Right around the left one.

Degrees: As above.

Commands: As above, substituting right for left and left for right.

Execution: As above, the touch being left, sight right.

3. The Front Rank Wheels Around the Middle.

a. Left around the middle.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, $1/1$.

Command: A quarter wheel left around the middle—march!

Execution: That part of the rank being on the right of the middle and including the middle performs a quarter wheel left around the left one, according to the rules laid down for such a wheel above. That part of the rank situated on the left of the middle and including it performs a quarter wheel left around the right one, according to the rules before given.

In determining the number of counts necessary for such a quarter wheel, the middle counts as one individual towards each part of the rank, even though the middle be a point and not a person at all. To illustrate: in a rank of two wheeling around the middle we allow two counts for the quarter wheel, the middle counting as one, there being one additional individual making two. In the rank of three the middle is an individual besides which the rank contains one more, making again a rank of two, and the quarter wheel is accomplished in two counts. The rank of four and five would then necessitate three counts each for a quarter wheel when wheeling around the middle.

b. Right around the middle.

Degrees: As above.

Command: A quarter wheel right around the middle—march!

Execution: As above, substituting right for left and left for right.

4. The Front Rank Wheels Around a Point Within the Rank, Not the Extremities, and Not the Center (Eccentric Wheeling).

a. Left around an eccentric point.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, $1/1$.

(Assumed a rank of five).

Command: A quarter wheel left around the second from the left—march!

Execution: That part of the rank lying on the right of the pivot performs a quarter wheel around the left one. In this case, counting the pivot, it is a rank of four. That part of the rank lying to the left of the pivot and including it performs a quarter wheel left around the right one. In this case it is a rank of two. The rules for such wheeling are given above. The number of counts necessary for such a quarter wheel is equal to the number of individuals in the larger segment of the rank. The other degrees correspond in command and execution to the above.

b. Right around an eccentric point.

Commands and execution follow the example given above.

5. The Front Rank Wheels Around a Point Lying Outside of the Rank.

This conforms in direction and degree, as well as synonymity or unsynonymity of pivot, to the wheelings given before under 1 and 2.

Command: A quarter wheel left around x steps distance—march!

Execution: Assuming x to equal four and the rank to take four members the wheel is executed as a quarter wheel left around the left one would be if the rank were a rank of eight.

II. The Flank Rank Wheels

1. The Flank Rank Wheels Around the Last One.

a. Left around the last one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, $1/1$.

Command: A quarter wheel left—march!

Execution: The movement may be executed by true marching or follow stepping left. The latter is the method usually followed. The number of counts necessary to perform a quarter wheel is equal to the number of members in the rank. If the wheel were performed by true marching this would allow three steps and one count to close with. If it were performed by follow stepping it would allow for four steps (assuming a rank of four), each carrying its own closing movement.

The dressing is of necessity towards the first one. As there is no touch normally in a flank rank, of course there is none while wheeling. The rank has to be kept together, while wheeling, altogether by sight. It is the front one, then, on whom, in the last instance we must depend for keeping the rank together. He will do this if he projects his right angle well. For this purpose he turns his head left and projects on a line running from the pivot to the left and at a right angle to the original position of the rank, a point as far removed from the pivot as the rank is deep. To this point he directs his march.

He traverses the arc with as many steps as there are members in the rank; so do the rest of the mem-

bers of the rank whose steps will become smaller and smaller till in the pivot they are true sideward steps or follow steps with the linear velocity of zero. This amounts to marching in place.

When the rank wheels by follow stepping it will require four follow steps to be marched in place by the pivot. As each follow step requires a closing movement there are a total of eight movements which the pivot must perform. As follow stepping in place is performed like in place marching, it follows that the pivot of a flank rank of four wheeling with follow step will have to perform eight in place march movements. As in follow stepping, the closing movement is not counted, these eight movements will here amount to four counts only.

At the completion of the wheel, the front one turns his head to the front. The dressing of the rank continues to the front.

The other degrees correspond in command and execution to the above, allowing twice the number of counts in the case of the half wheel, three times in the case of the three-quarters, and four times in the case of the entire wheel.

b. Right around the last one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, $1/1$.

Command: A quarter wheel right—march!

Execution: As given for the quarter wheel left, substituting right for left.

The other degrees correspond to the above, with allowance for additional steps.

2. The Flank Rank Wheels Around the First One.

a. Left around the first one.

Command: A quarter wheel left around the first—march!

Execution: The movement is executed by marching right with true or follow steps, the number of counts being equal to the number of members in the rank.

The dressing is to the front one. By this means the rank is to be kept straight while wheeling. As the movements of the front one are the smaller, the greater the number of members of the rank, guidance may become very difficult. There is, of course, no touch, and distance must be kept by sight. As sight is directed to the pivot, it is easy to keep the rank together, but difficult to keep it straight. The pivot lying here in the front, he moves with steps the linear velocity of which is zero, the steps increasing in size till the last one in the rank marches with an ordinary step.

The other degrees correspond in command and execution to the above, making allowance for the increased number of steps in one-half, three-quarters and a whole wheel.

b. Right around the first one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, $1/1$.

Command: A quarter wheel right around the first one—march!

Execution: As above, substituting left for right.

3. The Flank Rank Wheels Around the Middle.

a. Left around the middle.

Command: A quarter wheel left around the middle—march!

Execution: That part of the rank in front of the middle wheels according to the rules given for the flank rank wheeling left around the last one. It would then march to the left. That part of the rank lying behind the middle wheels according to the rules of the flank rank wheeling left around the front one (i. e., it marches to the right). The number of counts equals the number of individuals in the segment counting the middle as one individual, whether it falls on an individual or in the space between.

The other degrees correspond in execution to the above, allowing for the greater number of steps in the half wheel, three-quarters and entire wheel, according to the formula given before.

b. Right around the middle.

Command: A quarter wheel right around the middle—march!

Execution: As given for the wheeling left around the middle, substituting left for right and right for left.

The several other degrees are executed correspondingly.

4. The Flank Rank Wheels Around a Point Within the Rank, Not the Extremities and Not the Center (Eccentric Wheeling).

(Assumed a rank of five.)

Command: A quarter wheel left around the second one—march!

Execution: That segment of the rank lying in front of the pivot (in this case the first and second member of the rank) wheels left around the last one in the usual manner. That segment of the rank lying in rear of the pivot, that is to say, the second, third, fourth and fifth members of the rank, wheel left around the first one. The rules for such wheeling are as given before. The number of counts necessary equals the number of members in the larger segment. In this instance it is four. Of course, both the larger and smaller segment require that number of steps.

This may be done to the left and right and in the several degrees of wheeling.

5. The Flank Rank Wheels Around a Point Lying Outside of the Rank.

These wheels are executed like wheels around the front or rear one, according to the situation of the pivoting point. One allows for the quarter wheel as many counts as the point is tactical steps distant from the first or last one. The several degrees and both directions are, of course, possible of execution and follow the rules before laid down.

E. ANGLE MARCHING

Purpose: Angle marching changes the surface relations of the rank to its surroundings without changing the nature of the arrangement of the rank and without materially changing the distance relations of the rank to its surroundings. It transposes the rank. It, like wheeling, is a form of facing of the rank. It differs, however, from wheeling in the way in which it accomplishes the transposition.

Directions: Like facing and wheeling, angle marching is done left and right.

Degrees: The type of the angle march is the marching of a right angle; one multiple only, namely the marching of two right angles or countermarch is possible. Beyond this, multiples are impossible to perform. Fractional degrees of the type are also performed, the usual ones being the angle marching of 45 and of 135 degrees, the angle march obliquely forward and obliquely backward, respectively. It is for facing the rank these degrees that angle marching becomes necessary, since in wheeling they are not practiced. In this respect angle marching is the tactic complement of wheeling. Wheeling, as has been demonstrated before, is but poorly adapted to the flank rank. Angle marching, as will hereafter be shown, on the other hand, admirably fits the conditions presented by the flank rank. Thus far angle marching supplements wheeling.

Fixed Point: The fixed point around which a rank turns in angle marching may lie in either extremity.

Mode of Performance: The angle march is the exact counterpart of wheeling in the mode of its performance. In wheeling all people turn simultaneously, but in order to do this are compelled to accomplish the turn piecemeal; in angle marching the members of the rank turn seriatim one after the other. This enables them to accomplish the turn in its entirety in one movement.

I. The Flank Rank Angle Marches

1. The Flank Rank Angle Marches Around the First One.

a. Left around the first one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{8}$, $\frac{3}{8}$ turns; or 90, 180, 45, 135 degrees.

$\frac{1}{4}$ turn, 90 degrees.

Command: Angle left—march!

Execution: The first one in the rank faces left and marches forward the length (rather depth) of the rank, then halts. The next one steps forward one step, which brings him into the exact place where the first one formerly stood, turns and marches forward the length of the rank less one step, then halts. The third one marches two steps forward, faces left, marches forward the length of the rank less two, and halts. This is the manner in which the rest of the members would perform, taking as many steps forward as they are removed from the pivoting point, then, after facing, taking as many steps forward as will make the distance travelled equal the length of the rank, and halting. In this way it comes about that the last member of the rank marches forward the length of the rank, faces left, and halts. The movements of all the members of

the rank are simultaneous, that is, at the command "march!" all will get under way. The rules for the marching forward of a flank rank must be rigidly observed. The number of movements required for the performance of an angle march is equal to the number of people in the rank. This means, if the angle march is performed by true forward marching, one step less than there are members in the rank, the last movement being the closing to a standing position. This, however, is only the case when the angle march is done from a stand to a stand, when done from a march, whether in or out of place, it requires as many steps as there are members in the rank.

$\frac{1}{2}$ turn, 180 degrees.

Command: Counter left—march!

Execution: The execution corresponds to that given above for the quarter turn (angle marching), except that the turn is one of 180 degrees, that is to say, a left about face. To this must be added an evasion to the right equal to the width of the individual. The number of movements necessary equals the number of people in the rank. The rules for marching in a flank rank must be observed.

$\frac{1}{8}$ turn, 45 degrees.

Command: Angle obliquely left forward—march!

Execution: The execution is that given for the angle march, except that the turn left amounts to $\frac{1}{8}$ turn or 45 degrees (in tactic parlance, left half face).

$\frac{3}{8}$ turn, 135 degrees.

Command: Angle obliquely left backward—march!

Execution: Corresponds to that given for angle marching, except that the turn equals $\frac{3}{8}$ of a turn or 135 degrees (in gymnastic nomenclature, left and half face). The term backward refers to the obliquity of the angle and not to the marching.

b. Right around the first one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{8}$, $\frac{3}{8}$ turns; or 90, 180, 45, 135 degrees.

$\frac{1}{4}$ turn, 90 degrees.

Command: Angle right—march!

Execution: Corresponds to angle marching left. The turn is of course, to the right. Marching from a stand is begun with the left foot; the rule for forward marching will be observed here, and though the turn is right, the march begins with the left foot.

$\frac{1}{2}$ turn, 180 degrees.

Command: Counter right—march!

Execution: As counter marching left except for the turn, which is right. The left foot starts the marching.

$\frac{1}{8}$ turn, 45 degrees.

Command: Angle obliquely right forward—march!

Execution: As angle marching obliquely left forward, the turn being right in this instance.

$\frac{3}{8}$ turn, 135 degrees.

Command: Angle obliquely right backward—march!

Execution: As under angle marching obliquely left backward, the turn being right.

2. The Flank Rank Angle Marches Around the Last One.

a. Left around the last one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{8}$, $\frac{3}{8}$ turns; or 90, 180, 45, 135 degrees.

$\frac{1}{4}$ turn, 90 degrees.

Command: Around the last, angle left—march!

Execution: The last one in the rank faces left and marches backward the length of the rank and then

halts. The one next to the last takes one step backward, turns left and marches backward the length of the rank less the one step taken before the turn and halts. The other members of the rank take as many steps backward as they are removed from the pivot then turn left and march backward the length of the rank less the number of steps which they have taken before the turn, then halt. This makes the last one in the rank march backward the length of the rank, face left and halt. The number of movements is equal to the number of individuals in the rank. This means one step less than there are members in the rank, the movements being done from stand to stand; as many steps as there are members in the rank if it is done from marching in place or from place. The rules for backward marching of the flank rank must be strictly adhered to.

$\frac{1}{2}$ turn, 180 degrees.

Command: Around the last, counter left—march!

Execution: As given under angle left around the last one. With the $\frac{1}{2}$ turn, an evasion to the left equal to the width of the individual must be taken.

$\frac{1}{8}$ turn, 45 degrees.

Command: Around the last, angle obliquely left forward—march!

Execution: As given under angle left, except that the turn amounts to 45 degrees (left half face) only.

$\frac{3}{8}$ turn, 135 degrees.

Command: Around the last, angle obliquely left backward—march!

Execution: As angle left march around the last one, except that the turn is $\frac{3}{8}$ (135 degrees) or left and half face.

b. Right around the last one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{8}$, $\frac{3}{8}$ turns; or 90, 180, 45, 135 degrees.

$\frac{1}{4}$ turn, 90 degrees.

Command: Around the last one, angle right—march!

Execution: Corresponds to angle left around the last one, except that the turns are right. Marching backward from a stand begins with the left foot, though the angle march and turn be right.

$\frac{1}{2}$ turn, 180 degrees.

Command: Around the last, counter right—march!

Execution: As counter left march around the last one, the turn and evasion being right.

$\frac{1}{8}$ turn, 45 degrees.

Command: Around the last one, angle obliquely right forward—march!

Execution: As angle obliquely left forward around the last one, except that the turn is right.

$\frac{3}{8}$ turn, 135 degrees.

Command: Around the last one, angle obliquely right backward—march!

Execution: As angle obliquely left backward around the last one, except that the turn is right.

II. The Front Rank Angle Marches

1. The Front Rank Angle Marches Around the End
Synonym with the Direction of the Angle March.

a. Left around the left one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{8}$, $\frac{3}{8}$ turns.

$\frac{1}{4}$ turn.

Command: Angle left—march!

Execution: The left one faces left and marches left with follow steps or true marching the length of the

rank, then halts. The other members of the rank take as many steps to the left as they are removed from the left one (pivot), then turn left, marching the width of the rank less as many steps as they have taken previously to the turn, when they halt. The rules for marching left with follow step or true marching in a dressed front rank are observed.

$\frac{1}{2}$ turn.

Command: Counter left—march!

Execution: As given under angle left march except that the turn is a half turn (180 degrees, or left about face), and that in turning an evasion forward equal to the depth of the individual must be taken.

$\frac{1}{8}$ turn.

Command: Angle obliquely left forward—march!

Execution: As given under angle left marching, the turn being $\frac{1}{8}$ turn or left half face.

$\frac{3}{8}$ turn.

Command: Angle oblique left backward—march!

Execution: As angle left march, the turn now being $\frac{3}{8}$ or 135 degrees.

b. Right around the right one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{8}$, $\frac{3}{8}$ turns.

$\frac{1}{4}$ turn.

Command: Angle right—march!

Execution: As angle left march, except that the turn is right. If executed by true sideward marching, it begins with the left foot, though the turn and march be right; if executed by follow step the right foot begins the march.

$\frac{1}{2}$ turn.

Command: Counter right—march!

Execution: As counter left march, the turn being right, the evasion forward.

$\frac{1}{8}$ turn.

Command: Angle obliquely right forward—march!

Execution: As angle obliquely left forward, the turn now being right.

$\frac{3}{8}$ turn.

Command: Angle obliquely right backward—march!

Execution: As angle obliquely left backward, the turn being right.

2. The Front Rank Angle Marches Around the End Opposite the Direction of the Angle March.

a. Left around the right one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{8}$, $\frac{3}{8}$ turns.

$\frac{1}{4}$ turn.

Command: Around the right one, angle left—march!

Execution: The right one taking a quarter turn left with the first step, marches right the width of the rank, starting with the right foot if the movement is done by follow stepping, with the left if done by true marching. The other members of the rank march as many steps to the right as they are removed from the right one (pivot), taking a quarter turn left at that place, and continue the march to the right, the width of the rank less as many steps as they have taken to get to the pivoting point, then halt. The rules for marching sideward right with follow step or by true marching in a dressed front rank are observed. The number of steps required is equal to the number of members in the rank, if

the movement be done from in place or from place marching; one less, if taken from stand to stand by true marching, but again equal to the number of members in the rank if done by follow step.

$\frac{1}{2}$ turn.

Command: Around the right one, counter left—march!

Execution: As given under angle left around the right one. With the half turn left, an evasion backward equal to the depth of the individual must be taken.

$\frac{1}{8}$ turn.

Command: Around the right one, angle obliquely left forward—march!

Execution: As given under angle left around the right one, the turn amounting to 45 degrees only.

$\frac{3}{8}$ turn.

Command: Around the right one, angle obliquely left backward—march!

Execution: As angle left around the right one, except that the turn is equal to 135 degrees.

b. Right around the left one.

Degrees: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{8}$, $\frac{3}{8}$ turns.

$\frac{1}{4}$ turn.

Command: Around the left one, angle right—march!

Execution: Corresponds to angle left around the right one, except that the turn is right, the march left.

$\frac{1}{2}$ turn.

Command: Around the left one, counter right—march!

Execution: As counter left around the right one, the turn being right, the march left, the evasion backward.

$\frac{1}{8}$ turn.

Command: Around the left one angle obliquely right forward—march!

Execution: As angle obliquely left forward around the right one, the turn being right, the march left.

$\frac{3}{8}$ turn.

Command: Around the left one angle obliquely right backward—march!

Execution: As angle obliquely left backward around the right one, the turn now being right, the marching left.

Note:—All angle marches as recited above may be executed from standing, from in place marching, or from marching from place in any mode and direction. They may lead to a stand, to marching in place, or to marching from place in any mode and direction. The rules given in the tactics of the individual for changing from a stand to a march, from a march to a stand, from marching in place to marching from place, from marching from place to marching in place, and from marching from place in any mode and direction to marching from place in any other mode or direction will be observed.

F. TRANSFORMING

Purpose: As the name indicates, this tactic movement transforms the rank. The transforming may be from a front into a flank or vice versa. It may, however, consist simply in a rearrangement of the individuals composing the flank or front rank so as to make the first one last, and the last one first; or the left one right, and the right one left, and the others correspondingly, but leaving the rank front or flank as before. Incidentally the forming, as we call it for short, transposes the rank to one or two right angles to its former position. The surface relations of the rank, however, remain unchanged.

Directions: Forming may be done forward or in front, backward or in rear, to the left or to the right.

Degrees: Incidentally transposing of the rank may amount to one or two right angles.

Fixed Point: The fixed point in front or rear of which or to the left or right of which, the forming takes place may lie in either extremity or in any point in between, though the latter is unusual.

Mode of Performance: The best and most tactical way of forming is by facing and marching in a straight line upon the destination and then re-facing. A tactical and also efficient way is to form by evasion. The forming by circling or by angle marching is used in exhibition work, but as they are circumstantial and not direct enough to be of educational value, no consideration will be given those modes here.

I. Transforming the Front Rank by Facing and Marching

1. The Front Rank Forms in Front.

a. In front of the left one.

Command: Form in front of left—march!

Execution: The extreme left member of the rank stands still, the others take a half face left and march forward till they arrive at the destination, when, with a half face right, they halt. The number of counts required for this performance is equal to the number of the place held by any member in the rank, counting from the extremity which is the fixed point. Thus, in this case, the extreme left one stands still, the next one on the right being the second in the rank counting from the left, performs the movement of forming in front of left in two counts, one to turn and step out, one to close and return. The third one in the rank takes three, the fourth one

four counts for the performance, and so on. If the movement is taken from a stand to a stand, the number of steps required is equal to the number of counts minus one. If it is done from marching in or from place, the number of steps is equal to the number of counts as given in above rule. As the members of the rank arrive in their new place, the rank as it reforms dresses to the front, so that by the time the last member of the rank has arrived in the new place the rank is dressed. The newly formed rank in this case, being a flank rank, the dressing is to the front.

b. In front of the right one.

Command: Form in front of right—march!

Execution: As given under 1, except that the first turn is to the right, the return to the left.

2. The Front Rank Forms in Rear.

a. In rear of the left one.

Command: Form in rear of left—march!

Execution: The extreme left member of the rank stands still. The others face $\frac{3}{8}$ of a turn left and march forward till they arrive at their destination; i. e., in rear of the one on the left, when with $\frac{3}{8}$ of a turn right, they halt. The number of counts required is as under 1a. The rule for dressing is as there cited.

b. In rear of the right one.

Command: Form in rear of right—march!

Execution: As under 2a, except that the first turn is right the re-turn left.

3. The Front Rank Forms to the Left.

a. Passing in front.

Command: Form left, pass in front—march!

Execution: All members of the rank except the one on the extreme left take a half face left and one step

forward; with the next step forward another half face left is taken; next the forward marching is continued till the individuals arrive in front of their places of destination, when, with another half face left, they take one step into place, and with $\frac{3}{8}$ of a turn right come to halt. The number of counts required for the performance is equal to the number of the place held by the member of the rank, counting from the extremity around which the forming takes place, multiplied by two. Thus, the second one needs four, the third six, and the fourth eight counts, and so forth, for the performance. As the members of the rank arrive in their new places the rank is dressed towards the fixed point. In this case the fixed point lies to the right, and the dressing is to the right. With the arrival of the last member of the rank, the dressing to the right is complete. The dressing is done according to the rules of dressing a front rank. This requires the turning of the head right; with the last man arriving the heads will be turned to the front without any special command.

b. Passing in rear.

Command: Form left pass in rear—march!

Execution: All except the individual on the extreme left take one step forward with $\frac{3}{8}$ of a turn left; with the next step an eighth of a turn right is taken; then the individuals march forward till arriving opposite the place of their destination in the rank, when, with an eighth of a turn right they will step into place and with a further eighth of a turn right will come to a halt. The number of counts required for this movement are as given under 3a. The dressing is to the right, as mentioned in the same place.

4. The Front Rank Forms to the Right.

a. Passing in Front.

Command: Form right, pass in front—march!

Execution: As under 3a, except that the turns are right, the re-turn left. The dressing is left.

b. Passing in rear.

Command: Form right, pass in rear—march!

Execution: As under 3b, the turns being right, the returns and dressing left.

II. Transforming the Flank Rank by Facing and Marching

1. The Flank Rank Forms to the Side of the First One.

a. To the left of the first one.

Command: Form left—march!

Execution: All except the first member of the rank take a half face left and march forward; when arrived at their destination they halt with a half face right. The dressing is to the right. The number of counts required is as under I. 1, a (page 48).

b. To the right of the first one.

Command: Form right—march!

Execution: As under a, except that the first turn is right, the re-turn left, the dressing left.

2. The Flank Rank Forms to the Side of the Last One.

a. To the left of the last one.

Command: Form left of the rear one—march!

Execution: All members of the rank, except the last one, with $\frac{3}{8}$ turn left, march forward; when arrived at their destination in the newly formed rank, they take $\frac{3}{8}$ turn right and halt. The dressing is to the right, the number of counts required as in 1, a.

b. To the right of the last one.

Command: Form right of the rear one—march!

Execution: As in a, the first turn being right, the re-turn left, the dressing left.

3. The Flank Rank Forms in Front.

a. Passing left.

Command: Form in front, pass left—march!

Execution: All except the first member of the rank take one step forward, with a half face left; another with a half face right; when arrived opposite the place of destination they step into the place with a half face right and halt with a half face left. The number of counts required is as under I, 3, a (page 50). The dressing is to the front.

b. Passing right.

Command: Form in front, pass right—march!

Execution: As under a, the first turn being right, the next left, the turning in left, the re-turn right.

4. The Flank Rank Forms in Rear.

a. Passing left.

Command: Form in rear, pass left—march!

Execution: All except the rear one take one step forward, with $\frac{3}{8}$ of a turn left; with the next step forward they take one more half face left; arriving opposite the place of destination, they step into place with another half face left, when with $\frac{5}{8}$ turn right they come to a halt. The dressing is to the front. The number of counts required is as given under I, 3, a (page 50).

b. Passing right.

Command: Form in the rear, pass right—march!

Execution: As under a, the first three turns being right, the re-turn left.

III. Transforming the Front Rank by Evasion

1. The Front Rank Forms in Front, Evading Backward.

a. In front of the left one.

Command: Form in front of left, evade backward—march!

Execution: The extreme left member of the rank marches backward. The others march sideward left (true marching) till they arrive in their turn at the extreme left of the rank, when they also begin backward marching. The member on the extreme right marches sideward left and halts when he arrives on the place formerly held by the member on the extreme left of the rank. Thus, it will be seen that the member originally on the left of the rank marches as many counts backward as there are members in the rank; the member on the extreme right marches as many counts sideward left; the other members take as many steps sideward left as they are removed from the extreme left of the rank and as many counts backward as remain after subtracting the number of steps marched left from the number of members of the rank. When the movement is taken from a stand, the number of steps required is equal to the number of members of the rank minus one, the last one being the closing movement. If the same be done from marching in or from place, the number of steps is equal to the number of counts as above given, i. e., equal to the number of people in the rank.

b. In front of the right one.

Command: Form in front of right, evade backward—march!

Execution: As given under 1, except that the marching is to the right.

2. The Front Rank Forms in Rear, Evading Forward.

a. In rear of the left one.

Command: Form in rear of left, evade forward—march!

Execution: As under 1, a, except that the extreme left one and the others in turn march forward.

b. In rear of the right one.

Command: Form in rear of right, evade forward—march!

Execution: As under 1, b, except that the right one and the others in turn march forward.

IV. Transforming the Flank Rank by Evasion

1. The Flank Rank Forms to the Side of the First One.

a. To the left of the first one, evading right.

Command: Form left, evade right—march!

Execution: The first one marches the length of the rank to the right. The next one takes one step forward then marches the length of the rank, minus one step to the right. The following ones march forward to the place where the first one of the rank originally stood, then march to the right as many steps as will remain after subtracting the number of steps equal to the place they held in the rank. Thus the last one will march forward the length of the rank and then halt. The number of counts required for the movement is equal to the number of people in the rank. The counts are steps, as the movement is undertaken from marching in or from place the steps are one step less than the counts, the last movement being taken up for closing to a stand, when the movement is undertaken from a stand.

- b. To the right of the first one, evading left.

Command: Form right, evade left—march!

Execution: As under a, except that the first one and the others in turn march left.

2. The Flank Rank Forms to the Side of the Last One.

- a. To the left of the last one, evading right.

Command: Form left of the rear one, evade right—march!

Execution: As under 1, a, except that the marching of all except the last one is backward first, then right.

- b. To the right of the last one, evading left.

Command: Form right of the rear, evade left—march!

Execution: As under 2, a, except that the evasion is done by marching sideward left.

G. OPENING OF THE RANK

Purpose: The object of opening the rank is to have intervening between the members a greater distance than is had in the dressed rank.

Directions: The rank may be opened forward, backward, left or right.

Degrees: Any distance may intervene between members of the rank.

Fixed Point: The fixed point may lie in either extremity of the rank, or any point in between.

Modes of Performance: The rank may be opened (a) so that all members concerned will move simultaneously; (b) so that all members concerned will move in succession. The distances that are to intervene may be established (a) by using parts of the body as measures by placing them in certain positions, as for

instance, raising the arms forward and taking arm's length distance; raising both arms sideward and having double arms' length distance; (b) by a certain number of steps (1, 2, 3, or more) distance. The rank may be opened by the various forms of marching without a turn or with a turn accompanying the first step and the return accompanying the closing movement.

I. The Opening of the Front Rank

1. Opening the Front Rank to the Left or Right.

a. One arm's length distance, members moving simultaneously.

Command: Open the rank left, raise the right arm sideward arm's length distance—march!

Execution: All members of the rank except the right one march to the left, in this instance by true marching (if follow step is wished for, the command would be "follow step march"). As they march they gradually raise the right arm to the position of "sideward raise." During this march sight is directed left. The one on the left sees to it that he marches in a straight line by the usual criterion. Touch is kept to the right. As soon as they no longer touch the neighbor on the right with the tips of their fingers, they have the prescribed distance, come to a halt, and lower the arm. They immediately dress to the right in the usual manner to straighten the rank and turn the head to the front as soon as the last member has completed the movement.

b. A certain number of steps distance, members moving simultaneously.

Command: Open the rank to the left two steps distance—march!

Execution: All members of the rank except the one on the right march to the left. The number of steps

required for each one to get at the proper distance is the number he is removed from the first place, multiplied by the distance required, in this instance, two. Assuming then a rank of four, the one on the right stands still, the next one to him takes one times two steps, the next one in the rank two times two, and so forth. The marching is done with sight left. As soon as each member arrives in his place, he dresses the rank to the right by turning his head right and sighting himself in a straight line position. With the last member finishing the movement, the heads are turned to the front.

c. Double arm's length distance, members moving in succession.

Command: Open the rank left, double arms' length distance, members in succession—march!

Execution: The members on the extreme left marches left, raising the arms sideways; when the next member no longer feels the touch of the sideward raised arms of the first moving member, he begins to march left, every succeeding file marches in the same way, the last member but one on the right marching so far as to no longer touch the sideward raised arms of the file on the extreme right, then halting, which halting brings to a halt all the rest of the files. While marching sight is directed left, touch right. After the marching is finished the dressing is to right. The dressing is to the right, as to distance and straight line relation in the usual manner. With the attainment of dressing, the arms are lowered, the heads turned to the front.

d. A certain number of steps distance, members moving in succession.

Command: Open the rank to the left, two steps' distance, and in succession—march!

Execution: The member on the extreme left takes two steps, when the next member to it commences to march left. After these two members have taken two more

steps the next file commences to march, and so forth. Thus the first member marches on the command, the second file on the left will march on the third step, the next member will march on the fifth, and so on. The number of steps required for each member is equal to the distance multiplied by the number which denotes the distance from the file on the right. While the members march in succession, they halt simultaneously. While marching sight is directed left. At the end of the movement the dressing is to the right.

Note:—For the opening to the right the marching is of course to the right. The ways and manners of performances are as above given.

e. By facing and marching.

As an example of opening by facing and marching, I shall simply give one type of it. It is, of course, understood that all the ways and manners of opening the rank to the left and right, as above given, can likewise be modified by this manner of marching.

Example: The front rank opens to the right to a certain number of steps' distance by marching forward.

Command: Open the rank to the right two steps' distance, forward—march!

Execution: All members except the one on the extreme left of the rank face right and march forward the number of steps required under the command, i. e., 2, 4, 6, and so forth. At the completion of the certain number of steps they face left and close to a stand. The dressing is left.

2. The Front Rank Opens to the Left and Right.

a. Double arms' length distance, members moving simultaneously.

Command: Open the rank from the middle, double arms' length distance—march!

Execution: The files on the left of the middle march to the left, the ones on the right to the right, raising

the arms sideward till such time as they no longer touch the neighbor's, then halt and lower the arms. While marching the dressing is to the middle, after the completion of the march the rank dresses right.

- b. A certain number of steps' distance members moving simultaneously.

(Assumed a rank of four.)

Command: Open the rank from the middle outward, four steps' distance—march!

Execution: The file directly to the left of the middle takes two steps to the left; the file on the extreme left six steps; the file to the right of the middle two steps to the right, the next one six steps. The dressing is in the direction of the march. After the halt the rank is dressed to the right.

- c. Double arms' length distance, members moving in succession.

- d. A certain number of steps' distance, members moving in succession.

Execution: As under a and b, with this difference, that the members on the extremity of the rank move first to the distance prescribed by the command when the members next to them move, and so forth.

Note:—An example of opening the rank from another point than the middle; given, a front rank of four.

Command: Open the rank from the second on the left to the left and right two steps' distance—march!

Execution: The second member of the rank stands still, the one on the left of the rank takes two steps to the left, the third member from the left marches two steps to the right, the one on the extreme right marches four steps to the right. The head-turning is in the direction of the marching. After the halting the rank is dressed to the right.

3. The Front Rank Opens Forward or Backward.

- a. From the right.
- b. From the left.
- c. From the middle.

Note:—There is no advantage in doing these openings successively, therefore, all files move simultaneously. The arms cannot be used to take distance by, therefore, all these openings of the rank are done to a certain number of steps' distance. One example will be given to illustrate the manner in which these openings are done.

Command: Open the rank from the right, two steps' distance, forward—march!

Execution: The member on the extreme right of the rank stands still, the one next to him marches two steps forward, the next one four, and so on.

Note:—The rank is opened backward in the same manner except that the marching is backward.

4. The Front Rank Opens Forward and Backward.

- a. From the middle.

(Assumed a rank of four.)

Command: Open the rank, two steps' distance, from left of middle forward, from right of middle backward—march!

Execution: The first member to the left of middle takes one step forward, the second member three steps forward; the first member to right of middle takes one step backward, the second three steps backward.

- b. From an eccentric point.

Example: (Assumed a rank of four.)

Command: Open the rank from second on the left, forward and backward, two steps' distance—march!

Execution: The second member, counting from the left, stands still; the first member takes two steps

forward; the third two steps backward, and the fourth four steps backward.

II. Opening of the Flank Rank

1. The Flank Rank Opens Forward or Backward.

a. Members moving simultaneously.

Command: Open the rank forward two steps' distance—march!

Execution: The last member of the rank stands still, the one before him marches two, the one before that four, and so on, steps forward, then halts. During the marching, as well as after, the rank is dressed forward.

b. Members moving in succession.

Command: Open the rank forward two steps' distance, files in succession—march!

Execution: The first member of the rank marches forward, on the third count the second member marches, on the fifth count the next member marches, and so forth. Every succeeding member of the rank takes two more steps. The number of steps required for each member is the distance multiplied by the place he occupies in the rank from the rear extremity. The total number of counts required is equal to the distance multiplied by the number of members in the rank, minus one. While the files move in succession they all halt on the same count. The counts are steps if the movement is done from marching in or from place, it requires one more count for closing when taken from a stand.

Note:—The flank rank opens backward in the same ways as described above, except that the march is backward. Distance by arm raising forward may also be used when the flank rank opens backward.

2. The Flank Rank Opens Forward and Backward.

- a. Members moving simultaneously.
- b. Members moving in succession.

Note:—This may only be done to a certain number of steps' distance. The opening may occur, however, from the middle or any other point. For execution, see the foregoing.

3. The Flank Rank Opens Left or Right.

- a. Left from the first one.

Command: Open the rank left from the first one, two steps' distance—march!

Execution: The first member stands still. The next one marches two steps left, the next one four, and so on.

- b. Left from the last one.

Command: Open the rank to the left from the last one, two steps' distance—march!

Execution: The last member of the rank stands still, the one before him takes two, the one before that four steps, and so forth, to the left.

Note:—These openings can only be done to a certain number of steps. The files may move simultaneously, as there is no advantage in moving successively.

Manner and execution of opening to the right as under (a) and (b), except that the march is right.

4. The Flank Rank opens Left and Right.
 - a. From the middle.
 - b. From another point than the middle.

The execution follows the scheme given under the corresponding opening of the front rank. See I, 4.)

III. The Opening of the Oblique Rank

The oblique rank can open in all the different directions, and by all the various means which apply to the front rank.

H. THE CLOSING OF THE RANK

Objects: As the name implies, this tactic movement closes a rank previously opened to a certain distance, to such distance as prevails when the rank is dressed.

Modes of Performance: The closing of the rank, being the reverse of the opening, it follows that the methods of closing are analogous. Thus we may close to the left, to the right, forward, backward. We may close to one extremity or other of the rank, to the middle or any other point in between the extremities. The files may move simultaneously, they may move in succession. They may march without a turn in the direction of the closing, or they may face and march forward, to re-turn and halt at the end of the march. The dressing is always in the direction of the march. If the opening has been done by raising the arms forward or sideward, the number of steps required for closing the ranks cannot previously be determined. One must take as many as will bring one to the proper distance. When the ranks have been opened by a certain number of steps, it will require the same number of steps for the rank and for each individual to close it as it has to open it. Since opening the ranks in succession is mainly done for accuracy's sake and since all closing of the rank is of necessity accurate, there is no advantage in closing the ranks by having the files move in succession. One example may suffice to show the method.

Given—a front rank of four, opened to a distance of two steps.

Command: Close the rank left—march!

Execution: As the command all except the member on the extreme left of the rank march to the left. The sight is left as they arrive and get in touch with the member on the left; they halt with the arrival of the last one. The dressing to the left is given up by turning the face to the front.

The same exercise. Close rank left, forward—march!
 Execution: All except the member on the left, face left and march forward; when arriving in what will be touching distance after facing, they will face right and halt. They will then dress left, which dressing is given up by turning the face to the front after the arrival of the last one.

Note:—The opened rank may as a matter of course perform all the tactic movements of the ordinary closed dressed rank. The only difference will be that for instance in the case of an opened front rank the movement will have to be directed by sight only as there is no touch and that the number of counts required for any movement will now be determined not by the number of members in a rank but by the total extent of the rank. The movements of each member as far as they differ in number of steps or as to the time when certain movements are to be taken will be determined by the distance of each member from the fixed point of the movement.

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